

# ANALISA RISIKO KECELAKAAN *MOTOR VEHICLE CRASH* (MVC) DAN *INJURY* DI PROYEK PT. “X” DENGAN METODE *FAULT TREE*

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## ABSTRAK

PT. “X” mempunyai semboyan dan gerakan yang disebut “*Zeros is attainable*”. Maksud dari semboyan dan gerakan tersebut adalah perusahaan mempunyai target untuk mencapai suatu kualitas operasi yang handal dengan nihil kecelakaan kendaraan bermotor (*Motor Vehicle Crash* atau MVC), nihil *oil spill* (tumpahan minyak), nihil *fatality*, nihil kebakaran (*fire*), nihil cedera yang dicatat (*Total Recordable Injury* atau TRI), dan nihil hilangnya hari kerja (*Days Away from Work* atau DAFW). Dalam periode tiga tahun (2009-2011), data yang diperoleh dari Departemen HES (*Health, Environment & Safety*) PT. “X” menunjukkan bahwa tingkat kecelakaan kendaraan bermotor (MVC) masih sangat tinggi. MVC menduduki peringkat pertama dengan angka 72,38% atau 304 kejadian, disusul *injury* atau cedera yang terdiri dari komponen TRI dan DAFW dengan angka 25.00% atau 105 kejadian.

Penelitian ini bertujuan untuk mengidentifikasi sumber penyebab kecelakaan kendaraan bermotor (MVC) dan *injury* serta langkah-langkah yang dapat diambil dan diterapkan untuk mengurangi angka kecelakaan kendaraan bermotor dan *injury*. Metode yang digunakan adalah *Fault Tree Analysis* untuk menganalisa probabilitas terjadinya kecelakaan tersebut. Pemodelan pohon kegagalan dan usulan mitigasi dilakukan melalui *Focus Group Discussion* (FGD) dengan beberapa pihak yang terkait diantaranya adalah HES (*health, environment & safety*) engineer, HES analyst, construction engineer, field construction representative, project engineer, project manager, subject matter expert (SME), serta perwakilan dari mitra kerja.

Hasil *Fault Tree Analysis* untuk MVC, diperoleh *minimum cut sets* tertentu yang mempunyai probabilitas terjadinya kecelakaan kendaraan bermotor sebesar 0,6933. Tindakan tidak aman dari pengemudi lain merupakan faktor utama penyebab terjadinya kecelakaan kendaraan bermotor. Sedangkan untuk *injury*, diperoleh *minimum cut sets* tertentu yang mempunyai probabilitas terjadinya kecelakaan kerja yang mengakibatkan *injury* sebesar 0,8123. Penyebab utama dari kecelakaan kerja yang mengakibatkan cedera adalah pekerja gagal melakukan identifikasi bahaya sekitar. Setelah dilakukan upaya perbaikan ataupun penanganan risiko, maka diperoleh probabilitas terjadinya kecelakaan yang baru. Probabilitas terjadinya kecelakaan kendaraan bermotor menjadi sebesar 0,6501. Sedangkan probabilitas terjadinya kecelakaan kerja yang mengakibatkan *injury* menjadi sebesar 0,7227.

Kata kunci: Cedera, *Fault Tree Analysis*, Kecelakaan kerja, Kendaraan bermotor.



# **INCIDENTS RISK ANALYSIS OF MOTOR VEHICLE CRASH (MVC) AND INJURY AT PT. "X" PROJECTS WITH FAULT TREE METHOD**

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## **ABSTRACT**

PT. "X" has a slogan and program called "zeros is attainable". The purpose of the slogan and program is that company has a target to achieve a good quality and reliable operation with a zero motor vehicle crash or MVC, zero oil spill, zero fatality, zero fire, zero total recordable injury or TRI and zero days away from work or DAFW. Company believes that those can be achieved. Within three years (2009-2011), the data which is obtained from HES Department (Health, Safety & Environment) of PT. "X" indicates that the rate of motor vehicle crash or MVC is still very high. MVC was in the first ranking with 72.83% or 304 events, followed with injury which include of TRI and DAFW in the second ranking with 25.00% or 105 events.

This study aim to identify things that can cause motor vehicle crashes (MVC) and injuries (TRI+DAFW) and actions that can be taken / implemented to reduce the number of motor vehicle accidents and injury. The method used is Fault Tree Analysis (FTA) to analyze the probability / likelihood of accident occurrences. Fault tree modelling and mitigation proposed are conducted through Focus Group Discussion (FGD) with stakeholders involvement consist of HES (health, environment & safety) engineer, HES analyst, construction engineer, field construction representative, project engineer, project manager, subject matter expert (SME), also business partner representatives.

The results of Fault Tree Analysis for MVC, obtained minimum cut sets and has a probability of motor vehicle crash at 0.6933. Unsafe acts by others driver is the main cause of motor vehicle crash in PT. X during 2009-2011. While for injury, obtained minimum cut sets and has a probability of injury at 0.8123. The primary cause of accidents which lead to injury is failed to identify surrounding hazards. After having improvement of risk handling, it is obtained new minimum cut sets and also new probabilities of incidents. New probability of motor vehicle crash at 0.6501, while new probability of injury at 0.7227.

Key words: Accidents, Fault Tree Analysis, Injury, Vehicles crash.



## BAB 2

### TINJAUAN PUSTAKA

#### 2.1 DEFINISI PROYEK

Proyek didefinisikan sebagai rangkaian aktifitas yang mempunyai ciri-ciri sebagai berikut :

- a. Memiliki tujuan tertentu yang harus selesai dalam spesifikasi tertentu
- b. Memiliki tanggal mulai dan berakhir yang ditentukan.
- c. Memiliki batasan dana (jika berlaku).
- d. Mengkonsumsi sumber daya manusia dan non human (yaitu, uang, orang, peralatan).
- e. Multifungsi (yaitu saling berhubungan dengan beberapa bidang fungsional).

(Kerzner, 2009)

Proyek konstruksi pada umumnya meliputi bidang-bidang jasa sebagai berikut :

1. Bidang perencanaan (*design*)
2. Bidang pelaksanaan (*construction*)
3. Bidang pengawasan (*supervision/construction management*)
4. Bidang pengelolaan lahan (*property management*)
5. Bidang pengembangan lahan (*developer*)

Proyek yang melibatkan sumber daya manusia yang banyak, dengan tingkat kesulitan yang besar, dengan waktu pengerjaan yang terbatas serta kondisi lingkungan yang terus berubah tentu tidak luput dari bahaya dan risiko.

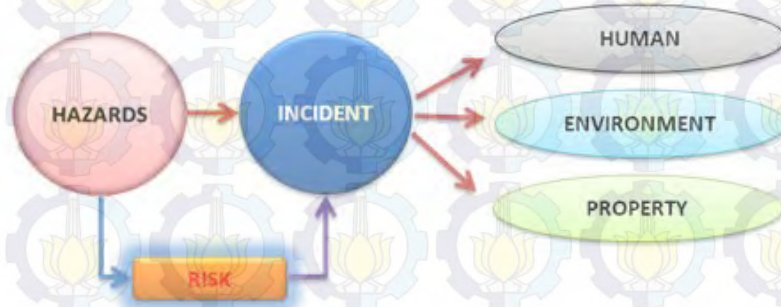
#### 2.2 DEFINISI BAHAYA DAN RISIKO

Bahaya adalah segala sesuatu/potensi yang dapat menyebabkan cedera/kerugian. Bahaya sering dihubungkan dengan suatu aktifitas atau kondisi yang tidak terkendali, sehingga dapat menyebabkan kerugian atau luka atau penyakit.

Bahaya dapat berasal dari sumber fisika, kimia, dan biologis. Sumber bahaya tersebut dapat menimbulkan gangguan bagi kesehatan dan keselamatan



manusia. Bahaya yang bersumber dari sumber fisik, yakni antara lain termasuk panas, kebisingan, getaran, tekanan, radiasi, sengatan listrik, gravitasi, dan pemotongan atau akibat dari benda yang bergerak. Sumber kimia dapat berasal dari bahan kimia anorganik dan organik alami ataupun buatan manusia. Sumber biologi mencakup virus, bakteri, dan patogen manusia lainnya. (Erickson, 1996)



Gambar 2. 1 Bahaya dan risiko mempunyai hubungan yang erat (Ramli, 2010)

Sedangkan, risiko berhubungan dengan ketidakpastian, hal ini terjadi oleh karena kurang atau tidak tersedianya cukup informasi tentang apa yang akan terjadi. Tidaklah mudah untuk mengevaluasi risiko karena probabilitas terjadinya dan konsekuensi dari terjadinya biasanya tidak secara langsung merupakan parameter terukur dan untuk menilainya sering diperkirakan dengan 'judgment', statistik, atau prosedur lainnya. (Kerzner, 2009).

Sesuatu yang tidak pasti (*uncertain*) dapat berakibat menguntungkan atau merugikan. Ketidak pastian yang menimbulkan kemungkinan menguntungkan dikenal dengan istilah peluang (*opportunity*), sedangkan ketidak pastian yang menimbulkan akibat yang merugikan dikenal dengan istilah risiko (*risk*).

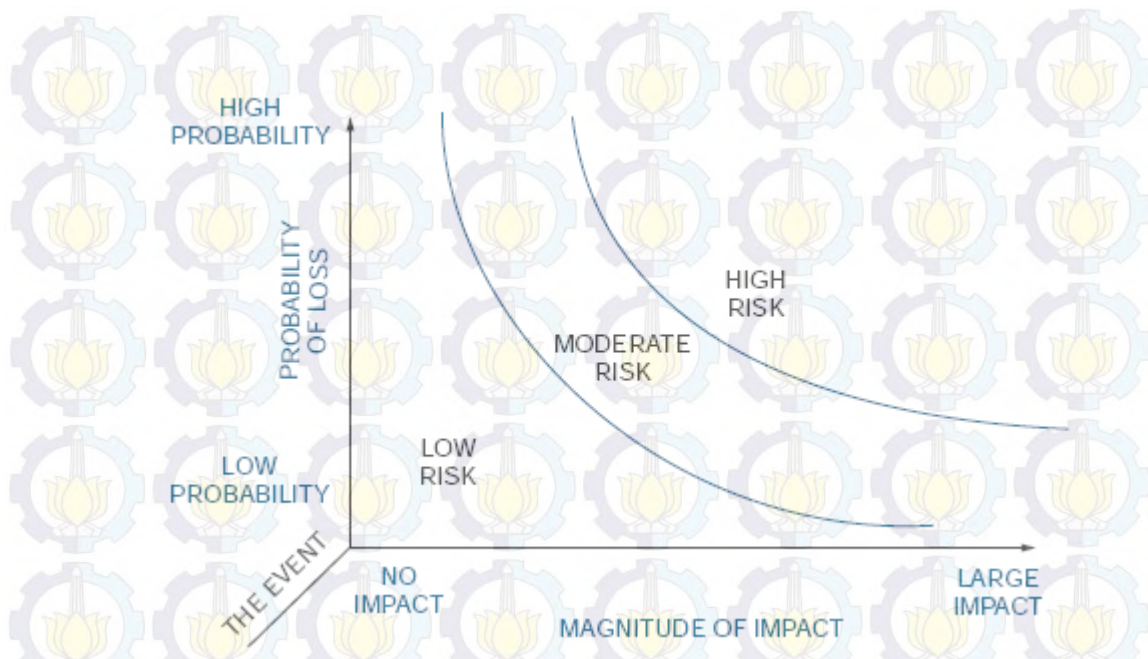
Risiko memiliki dua komponen utama :

1. Sebuah probabilitas terjadinya peristiwa.
2. Dampak (atau konsekuensi) dari terjadi acara (jumlah taruhan).

Secara konseptual, risiko untuk setiap peristiwa dapat didefinisikan sebagai fungsi dari probabilitas dan konsekuensi (dampak), yaitu;

$$\text{Risiko} = f(\text{probabilitas, konsekuensi}) \dots\dots\dots (2.1)$$





Gambar 2. 2 Risiko sebagai fungsi dari probabilitas dan dampaknya  
(Erickson, 1996)

Secara umum, meningkatnya probabilitas ataupun konsekuensi, akan berbanding lurus dengan meningkatnya risiko. Baik probabilitas dan konsekuensi harus dipertimbangkan dalam manajemen risiko. Secara umum risiko dapat diartikan sebagai suatu keadaan yang dihadapi seseorang atau perusahaan dimana terdapat kemungkinan yang merugikan. Risiko merupakan suatu kemungkinan dari suatu kejadian yang mempengaruhi suatu tujuan. Risiko tersebut dapat diukur dalam terminologi *consequence* (konsekuensi) dan *likelihood* (kemungkinan/probabilitas).

Unsur lain dari risiko adalah penyebab terjadinya risiko itu sendiri. Sesuatu, atau kurangnya sesuatu, dapat menginduksi situasi berisiko. Penyebab tersebut bisa berupa sumber bahaya. Bahaya tertentu dapat diatasi dengan mengetahui mereka dan mengambil tindakan untuk mengatasinya. Dengan demikian risiko dapat diartikan sebagai fungsi dari bahaya dan *safeguard* (perlindungan yang ada):

$$\text{Risiko} = f(\text{bahaya, safeguard}) \dots\dots\dots (2.2)$$

Risiko meningkat dengan bahaya, tetapi menurun dengan adanya *safeguard* (perlindungan). Implikasi dari persamaan ini adalah bahwa manajemen proyek yang baik harus terstruktur untuk mengidentifikasi bahaya dan



perlindungan/pengamanan (*safeguard*) yang memungkinkan harus dikembangkan untuk mengatasinya. Jika pengamanan yang cocok tersedia, maka risiko dapat dikurangi ke tingkat yang dapat diterima.

## 2.3 KECELAKAAN KERJA

Kecelakaan memiliki definisi yang beragam menurut para ahli. Berikut ini adalah beberapa definisi kecelakaan menurut beberapa sumber:

- a. Heinrich (1980) mendefinisikan kecelakaan sebagai suatu kejadian yang tidak terencana dan tidak terkontrol yang merupakan aksi atau reaksi dari suatu objek, substansi, manusia, atau radiasi yang memungkinkan/dapat menyebabkan *injury*.
- b. *International Labour Office* mendefinisikan kecelakaan merupakan kejadian yang tidak terencana dan terkontrol, yang disebabkan oleh manusia, situasi/ faktor lingkungan, atau kombinasi dari faktor-faktor tersebut yang mengganggu proses kerja, yang dapat (ataupun tidak) menimbulkan *injury*, kesakitan, kematian, kerusakan properti, atau kejadian yang tidak diinginkan.
- c. Bird dan Germain (1990) mendefinisikan kecelakaan sebagai suatu kejadian tidak diinginkan yang menimbulkan kerugian pada manusia, kerusakan properti, ataupun kerugian proses kerja, sebagai akibat dari kontak dengan substansi atau sumber energi yang melebihi batas kemampuan tubuh, alat, atau struktur.
- d. Menurut Undang-Undang No. 1 Tahun 1970, kecelakaan kerja adalah suatu kejadian yang tidak diduga semula dan tidak dikehendaki, yang mengacaukan proses yang telah diatur dari suatu aktivitas dan dapat menimbulkan kerugian, baik korban manusia atau harta benda.
- e. Menurut OHSAS 180001: 2007, kecelakaan didefinisikan sebagai kejadian yang terkait pekerjaan, dimana suatu cedera, sakit (terlepas dari tingkat keparahannya), atau kematian terjadi, atau mungkin dapat terjadi. Dalam hal ini, yang dimaksud sakit adalah kondisi kelainan fisik atau mental yang teridentifikasi berasal dari dan/atau bertambah buruk karena kegiatan kerja dan/atau situasi yang terkait pekerjaan.



- f. Dalam Permenaker, Per/03/Men/1994 mengenai program JAMSOSTEK (Jaminan Sosial Tenaga Kerja), pengertian kecelakaan kerja adalah kecelakaan yang terjadi ketika berhubungan dengan hubungan kerja, termasuk penyakit yang timbul karena hubungan kerja demikian pula kecelakaan yang terjadi dalam perjalanan berangkat dari rumah menuju tempat kerja dan pulang ke rumah melalui jalan biasa atau wajar dilalui. Kecelakaan kerja merupakan resiko yang harus dihadapi oleh tenaga kerja dalam melakukan pekerjaannya.
- g. Sedangkan Direktur Teknik MIGAS (Minyak dan Gas) selaku Kepala Inspeksi Tambang MIGAS (Minyak dan Gas) mendefinisikan kecelakaan kerja tambang adalah setiap kecelakaan yang menimpa pekerja tambang, pada waktu melakukan pekerjaannya ditempat kerja pada wilayah kuasa pertambangan yang mengakibatkan pekerja kehilangan kesadaran, memerlukan perawatan medis, mengalami luka-luka, kehilangan anggota badan, atau kematian. Pekerjaan tambang adalah semua kegiatan yang dilakukan sehubungan dengan tugas atau kepentingan perusahaan termasuk kegiatan insidentil, kegiatan sukarela dan kegiatan lain yang dilakukan atas perintah/izin perusahaan.

Setelah melihat definisi dari berbagai sumber, maka dapat disimpulkan bahwa kecelakaan merupakan kejadian tidak terduga dan tidak diinginkan yang disebabkan oleh kombinasi beberapa faktor dan dapat menimbulkan kerugian pada manusia berupa *injury*, kesakitan, kematian, kerusakan properti, ataupun gangguan pada proses kerja. Namun, ada beberapa hal penting yang perlu dipahami terkait dengan pendefinisian *accident* (kecelakaan). Bird dan Germain (1990) mengungkapkan tiga aspek penting dalam pemahaman *accident*, yaitu:

- a. Dampak yang ditimbulkan kecelakaan tidak hanya cedera, tetapi juga kesakitan, seperti gangguan mental, saraf, ataupun gangguan sistemik.
- b. Terdapat perbedaan antara definisi "*injury*" dan "*accident*", dimana *injury* disebabkan oleh *accidents*, tetapi tidak semua *accident* menyebabkan *injury*.



- c. Apabila ada kejadian yang mengakibatkan kerusakan properti atau fasilitas, serta gangguan proses kerja, tetapi tidak menyebabkan *injury*, maka kejadian tersebut tetap dikategorikan sebagai *accident*.

Kecelakaan kerja adalah kejadian yang tidak terduga dan tidak diharapkan akibat dari kerja. Hubungan kerja atau pada waktu melaksanakan pekerjaan. Oleh sebab itu, kecelakaan akibat kerja ini mencakup dua permasalahan pokok, yakni:

- a. Kecelakaan adalah akibat langsung pekerjaan.
- b. Kecelakaan terjadi pada saat pekerjaan sedang dilakukan.

Dalam perkembangan selanjutnya ruang lingkup kecelakaan ini diperluas lagi sehingga mencakup kecelakaan–kecelakaan tenaga kerja yang terjadi pada saat perjalanan atau transportasi ke dan dari tempat kerja. Dengan kata lain kecelakaan lalu lintas yang menimpa tenaga kerja dalam perjalanan ke dan dari tempat kerja atau dalam rangka menjalankan pekerjaannya juga termasuk kecelakaan kerja.

Penyebab kecelakaan kerja pada umumnya digolongkan menjadi dua, yakni:

- a. Perilaku pekerja itu sendiri (faktor manusia), yang tidak memenuhi keselamatan, misalnya: karena kelengahan, kecerobohan, mengantuk, kelelahan, dan sebagainya. Menurut hasil penelitian Heinrich, 88% dari kecelakaan yang terjadi disebabkan karena faktor kesalahan manusia (*human error*).
- b. Kondisi-kondisi lingkungan pekerjaan yang tidak aman atau “*unsafe condition*”, misalnya: lantai licin, pencahayaan kurang, silau, mesin yang terbuka, dan sebagainya.

### **2.3.1 Teori Kecelakaan Kerja**

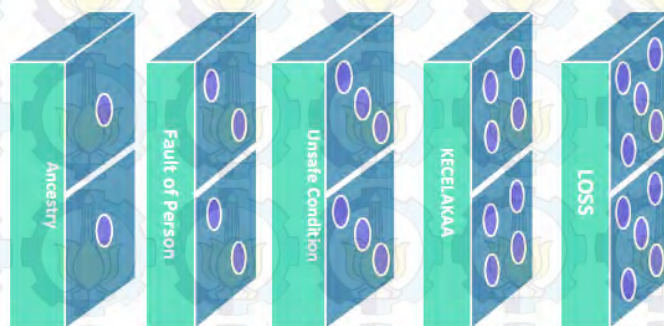
- a. Teori Domino

Teori domino merupakan salah satu teori penyebab kecelakaan yang dikembangkan oleh Heinrich pada tahun 1931. Heinrich melakukan analisis terhadap 75.000 laporan kecelakaan di perusahaan dan mengembangkan teori domino. Hasil dari analisisnya menunjukkan bahwa sebesar 88% kecelakaan



disebabkan oleh tindakan berbahaya (*unsafe act*), sedangkan sisanya disebabkan oleh hal-hal yang tidak berkaitan dengan kesalahan manusia, yaitu 10 % disebabkan kondisi yang tidak aman (*unsafe condition*) dan 2% merupakan kecelakaan yang tidak terhindarkan (*unavoidable accidents*). Heinrich menekankan bahwa kecelakaan lebih banyak disebabkan oleh kekeliruan, kesalahan yang dilakukan oleh manusia. Menurutnya, tindakan dan kondisi yang tidak aman akan terjadi bila manusia berbuat suatu kekeliruan. Hal ini lebih jauh menurutnya disebabkan karena faktor karakteristik manusia itu sendiri yang dipengaruhi oleh keturunan (*ancestry*) dan lingkungannya (*environment*).

Berdasarkan pada temuannya, Heinrich mengidentifikasi lima faktor tahapan kecelakaan. Kelima faktor tersebut adalah lingkungan sosial dan keturunan, kesalahan manusia, tindakan berbahaya dan atau kondisi mekanik/fisik, kecelakaan, dan *injury*. Kelima faktor yang diungkapkan Heinrich dalam teorinya dianalogikan sebagai kartu domino yang posisinya didirikan dan disejajarkan antara satu dengan lainnya. Apabila salah satu diantaranya terjatuh, maka akan menyebabkan jatuhnya kartu yang lain. Untuk mengatasi hal ini Heinrich menghilangkan salah satu kartu yaitu *unsafe act* (tindakan berbahaya) dan *unsafe condition* (kondisi berbahaya) yang merupakan sentral dari susunan kartu domino tersebut. Dengan menghilangkan tindakan dan kondisi berbahaya, maka kecelakaan kerja dan kerugian dapat dihindarkan. Pada dasarnya teori cukup sederhana dan mampu menjelaskan bagaimana terjadinya kecelakaan sesuai tahapan kejadian yang diuraikan. Namun, teori ini belum sepenuhnya memberikan banyak informasi mengapa kecelakaan tersebut dapat terjadi.

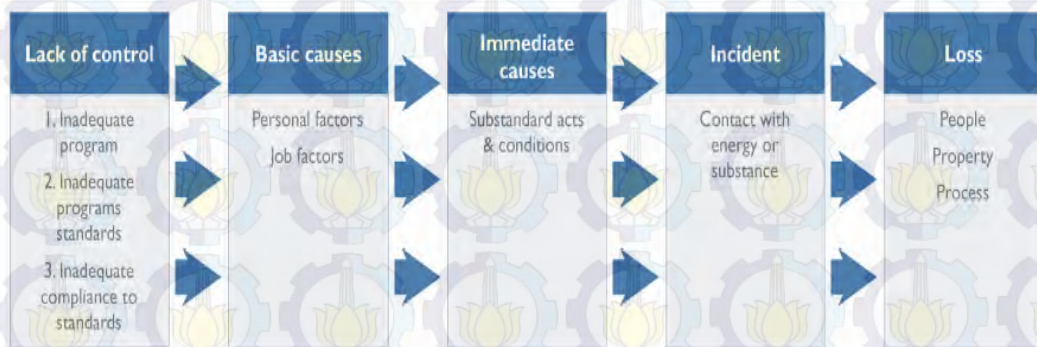


Gambar 2. 3 Teori Domino oleh Heinrich (Raouf, 2011)



b. Teori *Loss Causation Model*

*Loss Causation Model* adalah salah satu teori penyebab kecelakaan yang merupakan pengembangan dari teori domino yang dikemukakan Heinrich. Tidak seperti teori-teori penyebab kecelakaan lainnya, model yang dikembangkan oleh Frank E. Bird ini lebih sederhana sehingga lebih mudah dipahami oleh pengguna. Selain itu, model ini juga dapat membantu dalam mengungkapkan fakta-fakta penting untuk mengendalikan kecelakaan sehingga kerugian yang dapat timbul pada manusia, properti, dan proses kerja dapat dihindarkan. Berbeda dengan teori domino, pada model ini tahapan kecelakaan terdiri atas *loss* (kerugian akibat kecelakaan), insiden, penyebab langsung, penyebab dasar, serta kurangnya kontrol dari pihak manajemen. Berikut ini adalah penjelasan dari kelima tahap terjadinya kecelakaan berdasarkan *Loss Causation Model*.



Gambar 2. 4 *Loss Causation Model* (Model Causation : Safety, 2012)

1. *Loss* (kerugian)

*Loss* merupakan dampak yang ditimbulkan kecelakaan, yang mempengaruhi pekerja, properti, ataupun proses kerja. Dalam kaitannya dengan proses produksi, kerugian yang timbul dapat pula berupa gangguan proses produksi dan penurunan profit. Sementara itu, kerugian yang dapat timbul pada manusia dapat berupa *injury* maupun kesakitan, seperti gangguan mental, saraf, atau efek sistemik akibat terpapar sesuatu. Kerugian yang timbul sebagai akibat kecelakaan bervariasi, mulai dari kerugian yang tidak signifikan hingga kerugian besar yang menimbulkan kematian pekerja.



## 2. Incident

Insiden merupakan suatu kejadian dimana terjadi kontak yang dapat menyebabkan kerugian atau kerusakan. Ketika terdapat hal-hal yang berpotensi menyebabkan kecelakaan, maka selalu memungkinkan terjadinya kontak dengan energi yang melebihi batas kemampuan tubuh manusia atau struktur. Jenis energi yang dapat menimbulkan kontak antara lain energi kinetik, energi listrik, energi *thermal*, dan energi kimia.

## 3. Immediate Causes

*Immediate cause* (penyebab langsung) merupakan segala situasi yang secara langsung dapat menyebabkan kontak energi. Hal ini mencakup tindakan dan kondisi yang tidak sesuai standar, dimana dapat menyebabkan terjadinya insiden. Beberapa bentuk tindakan dan kondisi tersebut dapat dilihat pada Tabel 2. 1 berikut ini;

Tabel 2. 1 Tindakan dan kondisi yang tidak sesuai standar

Tindakan yang tidak sesuai standar	Kondisi tidak sesuai standar
Mengoperasikan peralatan tanpa wewenang	Pengamanan yang tidak memadai
Gagal memberi peringatan	APD yang tidak memadai
Gagal mengamankan	Peralatan/perlengkapan/material rusak
Mengoperasikan dengan kecepatan salah	Kemacetan/ruang gerak terbatas
Membuat alat keselamatan tidak dapat dioperasikan	Sistem peringatan yang tidak memadai
Tidak menggunakan alat pelindung diri	Bahaya kebakaran dan ledakan
Menggunakan peralatan yang salah	<i>Housekeeping</i> yang buruk
Menggunakan peralatan rusak	Kondisi lingkungan berbahaya
Tidak menggunakan APD dengan benar	Terpapar bising
Pemuatan yang tidak benar	Terpapar radiasi
Penempatan yang tidak benar	Terpapar temperatur tinggi/rendah
Posisi yang salah dalam menjalankan tugas	Pencahaya kurang/berlebihan
Melakukan perbaikan saat mesin beroperasi	Ventilasi yang tidak memadai

## 4. Basic Causes

*Basic causes* merupakan penyebab sebenarnya dari gejala yang timbul dan merupakan alasan mengapa tindakan dan kondisi berbahaya terjadi. Penyebab



dasar ini membantu dalam menjelaskan mengapa pekerja melakukan tindakan berbahaya serta mengapa terdapat kondisi berbahaya di lingkungan tempat kerja. Penyebab dasar terbagi menjadi dua kategori utama, yaitu faktor personal dan faktor pekerjaan dengan rincian sesuai dengan Tabel 2. 2 di bawah ini.

Tabel 2. 2 Faktor Personal dan faktor pekerjaan

Faktor Personal	Faktor Pekerjaan
Ketidakmampuan fisik/fisiologis	Pengawasan/supervisi tidak memadai
Ketidakmampuan mental/psikologis	<i>Engineering</i> tidak memadai
Kurangnya pengetahuan	Pembelian <i>spare part</i> kurang memadai
Kurangnya ketrampilan	Pemeliharaan tidak memadai
Stres fisik/fisiologis	Peralatan/perlengkapan tidak memadai
Stres mental/psikologis	Standar kerja kurang memadai
Motivasi yang tidak sesuai	Umur pemakaian dan keausan

##### 5. *Lack of Control Management*

Pengendalian merupakan salah satu dari empat fungsi utama manajemen selain merencanakan, mengorganisasikan, dan memimpin. Tanpa manajemen pengendalian yang kuat, kecelakaan kerja tidak dapat dicegah. Pengendalian kecelakaan dan kerugian dapat berjalan efektif apabila manajemen telah memahami beberapa hal, yaitu program pengendalian yang dibutuhkan, standar-standar yang digunakan, kemampuan untuk mengajak pekerja memenuhi standar tersebut, pengukuran terhadap performa kerja, serta tindakan apa saja yang dapat dilakukan untuk memperbaiki performa tersebut.

Bird dan Germain (1990) mengemukakan bahwa terdapat tiga alasan umum di dalam sebuah organisasi yang tidak memiliki pengendalian kerugian akibat insiden, yaitu: sistem yang tidak memadai, standar yang tidak memadai, dan pemenuhan standar yang tidak memadai. Suatu sistem dapat dikatakan tidak memadai apabila aktivitas dari sistem tersebut terlalu sedikit dan kurang tepat. Sementara itu, standar dapat dikatakan tidak memadai apabila kinerjanya kurang spesifik, kurang jelas, ataupun kurang tinggi. Standar yang baik harus mampu menunjukkan siapa yang bertanggung jawab, apa yang dipertanggungjawabkan, serta kapan perlu melaksanakan tanggung jawab tersebut. Upaya pengendalian dari pihak manajemen dapat terlaksana apabila standar yang digunakan dapat

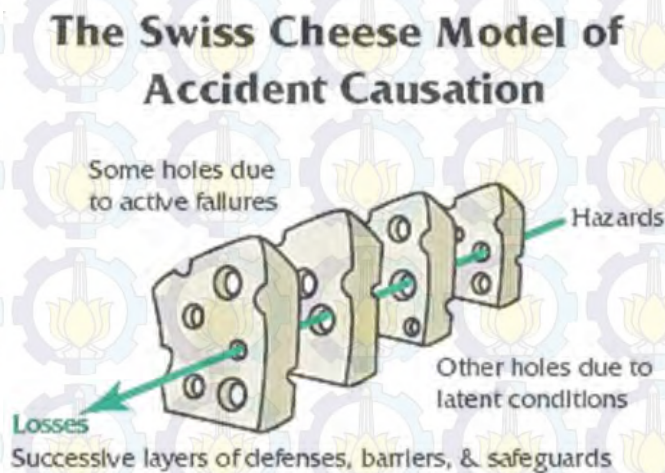


terpenuhi. Dengan kata lain, sangatlah percuma apabila standar yang digunakan sudah memadai, tetapi pemenuhannya tidak tercapai.

c. *Teori Swiss Cheese Model*

James Reason (1990) mengusulkan teori yang disebut sebagai “*Swiss Chess Model*” mengenai suatu kegagalan sistem. Setiap langkah dalam proses memiliki potensi untuk gagal, untuk berbagai kondisi. Sistem yang ideal adalah analog dengan tumpukan irisan keju Swiss. Diumpamakan lubang di keju tersebut menjadi suatu peluang untuk proses mengalami kegagalan, dan masing-masing irisan sebagai “lapisan pertahanan” dalam proses. Sebuah kesalahan memungkinkan masalah untuk melewati lubang di satu lapisan, tetapi lapisan berikutnya, lubang berada di tempat yang berbeda, dan masalahnya harus dapat diatasi. Setiap lapisan merupakan pertahanan terhadap potensi kesalahan yang berdampak pada hasilnya.

Diibaratkan setiap sepotong keju adalah kesempatan untuk menghentikan kesalahan. Semakin banyak pertahanan yang terpasang, semakin baik. Juga semakin sedikit dan semakin kecil lubang, semakin besar kemungkinan untuk menangkap / menghentikan kesalahan yang mungkin terjadi.



Gambar 2. 5 *Swiss Cheese Model* (Patient Safety, 2005)

Berdasarkan teori dari Reason, dijelaskan bahwa kecelakaan terjadi ketika terjadi kegagalan interaksi pada setiap komponen yang terlibat dalam suatu sistem proses. Seperti yang digambarkan pada Gambar 2. 5, kegagalan suatu proses dapat diumpamakan sebagai suatu “lubang” dalam setiap lapisan sistem yang berbeda,



dengan demikian menjelaskan sesuatu dari tahapan suatu proses tersebut yang gagal. Sebab-sebab suatu kecelakaan dapat dibagi menjadi, “*direct cause*” dimana hal tersebut sangat dekat hubungannya dengan kejadian kecelakaan yang menimbulkan kerugian atau cedera pada saat kecelakaan tersebut terjadi. Kebanyakan proses investigasi lebih terfokus kepada penyebab langsung terjadinya suatu kecelakaan dan bagaimana mencegah penyebab langsung tersebut. Tetapi ada hal lain yang lebih penting yang perlu diidentifikasi yakni “*latent cause*”. *Latent cause* adalah suatu kondisi yang sudah terlihat jelas sebelumnya dimana suatu kondisi tinggal menunggu waktu terjadinya suatu kecelakaan. (Patient Safety, 2005)

### **2.3.2 Kerugian Akibat Kecelakaan Kerja**

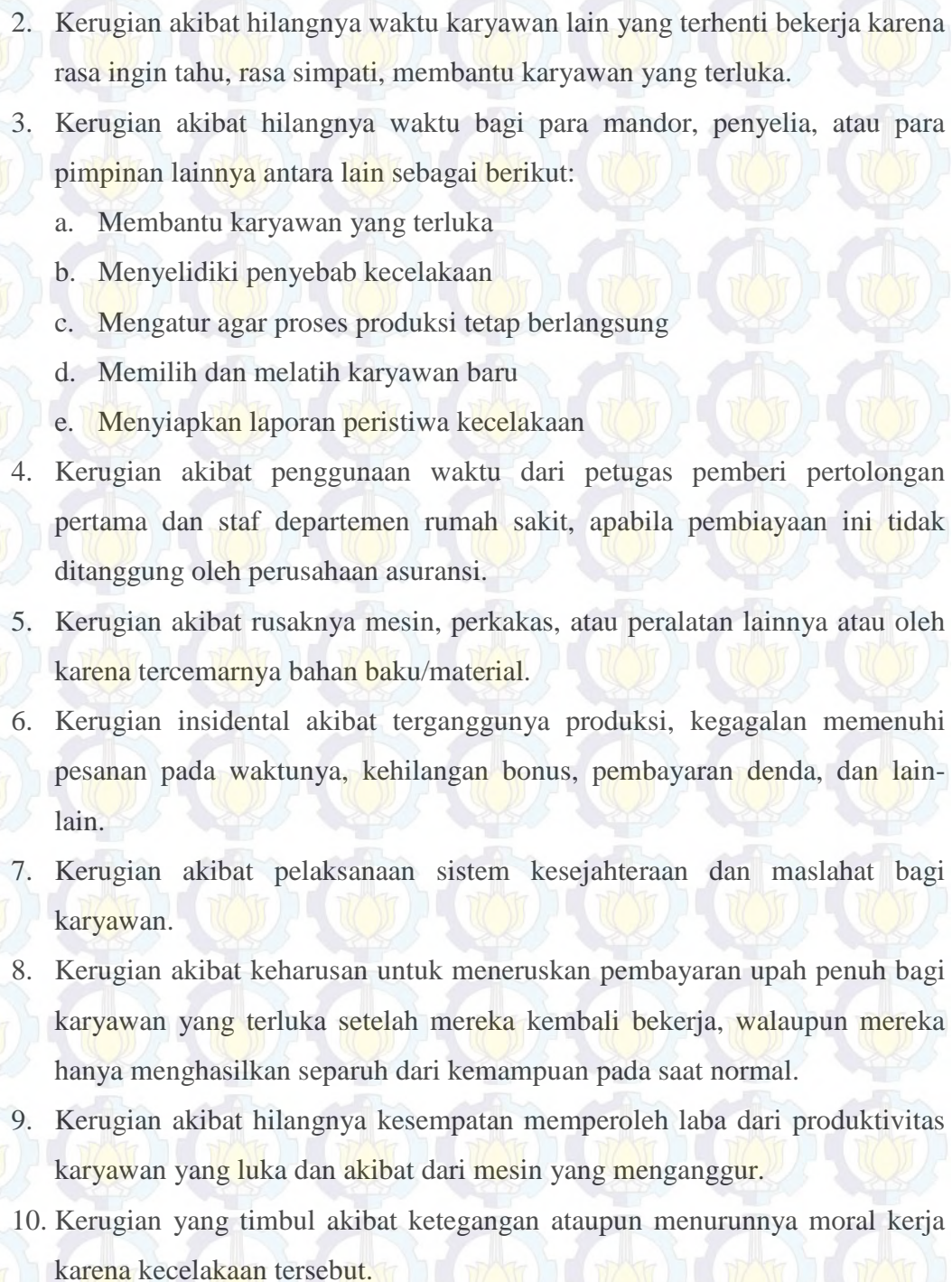
Teori *Accident Cost Iceberg* dikembangkan oleh Heinrich Teori ini mengungkapkan bahwa kejadian kecelakaan tidak hanya menimbulkan kerugian berupa biaya perawatan medis dan kompensasi, tetapi juga mengakibatkan kerugian lainnya yang kurang mendapat perhatian. Besarnya biaya yang tersembunyi akibat kecelakaan digambarkan sebagai gunung es yang hanya terlihat bagian ujung atasnya, sedangkan bagian lainnya tertutup di bawah laut. perbandingan antara biaya yang tampak (bagian atas) dengan biaya yang tersembunyi (bagian bawah) adalah 1 : 5 hingga 1 : 50.

Kerugian yang tampak berupa biaya perawatan medis dan kompensasi yang diasuransikan. Sedangkan, biaya akibat kecelakaan yang tidak tampak dan tidak diasuransikan, antara lain: biaya kerusakan gedung, kerusakan peralatan dan perkakas, kerusakan produk dan bahan, biaya pengeluaran persediaan dan peralatan darurat, serta biaya reparasi dan penggantian. Besarnya biaya kerugian tersebut seharusnya membuat manajemen lebih memperhatikan aspek keselamatan dan kesehatan kerja dalam setiap proses pekerjaan untuk menghindari kerugian.

Heinrich menyusun daftar kerugian terselubung sebagai akibat terjadinya kecelakaan, antara lain:

1. Kerugian akibat hilangnya waktu karyawan yang luka.



- 
2. Kerugian akibat hilangnya waktu karyawan lain yang terhenti bekerja karena rasa ingin tahu, rasa simpati, membantu karyawan yang terluka.
  3. Kerugian akibat hilangnya waktu bagi para mandor, penyelia, atau para pimpinan lainnya antara lain sebagai berikut:
    - a. Membantu karyawan yang terluka
    - b. Menyelidiki penyebab kecelakaan
    - c. Mengatur agar proses produksi tetap berlangsung
    - d. Memilih dan melatih karyawan baru
    - e. Menyiapkan laporan peristiwa kecelakaan
  4. Kerugian akibat penggunaan waktu dari petugas pemberi pertolongan pertama dan staf departemen rumah sakit, apabila pembiayaan ini tidak ditanggung oleh perusahaan asuransi.
  5. Kerugian akibat rusaknya mesin, perkakas, atau peralatan lainnya atau oleh karena tercemarnya bahan baku/material.
  6. Kerugian insidental akibat terganggunya produksi, kegagalan memenuhi pesanan pada waktunya, kehilangan bonus, pembayaran denda, dan lain-lain.
  7. Kerugian akibat pelaksanaan sistem kesejahteraan dan maslahat bagi karyawan.
  8. Kerugian akibat keharusan untuk meneruskan pembayaran upah penuh bagi karyawan yang terluka setelah mereka kembali bekerja, walaupun mereka hanya menghasilkan separuh dari kemampuan pada saat normal.
  9. Kerugian akibat hilangnya kesempatan memperoleh laba dari produktivitas karyawan yang luka dan akibat dari mesin yang menganggur.
  10. Kerugian yang timbul akibat ketegangan ataupun menurunnya moral kerja karena kecelakaan tersebut.





Gambar 2. 6 *Accidents Cost Iceberg* (Fred A. Manuele, 2011)

Badan Eksekutif Kesehatan dan Keselamatan (*Health and Safety Executive/HSE*) di *United Kingdom* (UK) pada tahun 1993 menerbitkan laporan yang mirip dengan teori Heinrich “*Accident Cost Iceberg*”.



Gambar 2. 7 *HSE Cost Ratios* (DNV, 1996)



Seperti studi yang dilakukan Heinrich, perbandingan langsung bisa dibuat antara biaya yang diasuransikan dengan biaya yang tidak diasuransikan. Untuk setiap US \$ 1.00 dari biaya yang diasuransikan untuk kecelakaan dan kerusakan yang terjadi, ada tambahan biaya yang tidak diasuransikan sebesar US \$ 13 hingga US \$ 58. (DNV, 1996)

### **2.3.3 Kecelakaan Kendaraan Bermotor (MVC, *Motor Vehicle Crash*)**

Kecelakaan kendaraan bermotor adalah kejadian kecelakaan yang sedikitnya melibatkan satu kendaraan yang menyebabkan cedera atau kerusakan atau kerugian pada pemiliknya/korban. Kecelakaan kendaraan bermotor juga dapat diartikan sebagai suatu peristiwa di jalan yang tidak disangka-sangka dan tidak disengaja, melibatkan kendaraan dengan atau tanpa pemakai jalan lainnya, mengakibatkan korban manusia atau kerugian harta benda. Kecelakaan merupakan kejadian yang sulit untuk diprediksi kapan dan dimana terjadinya. Kecelakaan tidak hanya mengakibatkan trauma, cedera, ataupun kecacatan, tetapi juga dapat mengakibatkan kematian.

Karakteristik kecelakaan menurut jumlah kendaraan yang terlibat digolongkan menjadi:

- a) Kecelakaan tunggal, yaitu kecelakaan yang hanya melibatkan satu kendaraan bermotor dan tidak melibatkan pemakai jalan lain, contohnya seperti menabrak pohon, kendaraan tergelincir, dan terguling akibat ban pecah, dan lain-lain.
- b) Kecelakaan ganda, yaitu kecelakaan yang melibatkan lebih dari satu kendaraan atau kendaraan dengan pemakai jalan lain yang mengalami kecelakaan di waktu dan tempat yang bersamaan.

Karakteristik kecelakaan menurut jenis tabrakan dapat diklasifikasikan menjadi:

1. *Side Impact*, atau lebih dikenal dengan *broadside* atau “*T-bone*” merupakan tabrakan dari arah samping kendaraan, umumnya terjadi di suatu persimpangan atau *intersection*.
2. *Rear-End*, kendaraan menabrak dari belakang kendaraan lain yang bergerak searah. Umumnya jenis kecelakaan ini sering disebabkan oleh



perlambatan mendadak (memperlambat atau pengereman). Dalam beberapa kasus, pengemudi lain mengikuti kendaraan di depannya terlalu dekat atau mempercepat dengan kecepatan yang lebih tinggi dari mobil di depannya.

3. *Sideswipe*, kendaraan yang bergerak menabrak kendaraan lain dari samping ketika berjalan parallel pada arah yang sama, atau pada arah yang berlawanan.
4. *Head-On* (Ho), tabrakan di muka antara kendaraan yang berjalan pada arah yang berlawanan (bukan *sideswipe*).
5. *Backing*, tabrakan secara mundur.

(Firm, 2013)

#### **2.3.4 Kecelakaan Kerja yang Mengakibatkan Cedera (*Injury*)**

Cedera atau *injury* adalah suatu kejadian yang tidak dikehendaki dan tidak diduga pada awalnya yang dapat menyebabkan luka pada anggota tubuh atau bahkan kecacatan pada saat melakukan pekerjaan.

Penggolongan cedera akibat kecelakaan berdasarkan (Kepmentamben No. 555, 1995) dibagi menjadi tiga yaitu:

1. Kecelakaan cedera ringan: cedera akibat kecelakaan yang menyebabkan pekerja tidak mampu melakukan tugas semula lebih dari satu minggu dan kurang dari tiga minggu.
2. Kecelakaan cedera berat terdiri dari cedera akibat kecelakaan yang menyebabkan pekerja tidak mampu melakukan tugas semula lebih dari tiga minggu; kecelakaan yang menyebabkan pekerja menjadi cacat tetap; dan cedera yang mengakibatkan pekerja mengalami: keretakan kepala, tulang punggung, pinggul, lengan bawah, lengan atas, paha atau kaki; pendarahan di dalam, atau pingsan disebabkan oleh kekurangan oksigen; luka berat atau luka terbuka / terkoyak yang dapat mengakibatkan ketidakmampuan tetap; persendian yang lepas dimana sebelumnya tidak pernah terjadi.
3. Kecelakaan fatal /menyebabkan kematian : kecelakaan yang mengakibatkan pekerja meninggal dalam waktu 24 jam terhitung dari terjadinya kecelakaan (Kepmentamben No. 555, 1995)



Sedangkan di PT. X sendiri ada beberapa kategori cedera, diantaranya:

1. *Days Away From Work* (DAFW) atau juga dikenal dengan istilah *Lost Time Injury* (LTI) adalah cedera yang memerlukan istirahat mulai dari kecelakaan terjadi hingga sembuh dan siap untuk bekerja kembali.
2. *Total Recordable Injury* (TRI), adalah banyaknya kejadian yang mengakibatkan cedera yang tercatat. Beberapa hal yang dimasukkan ke dalam golongan ini diantaranya adalah *first aid injury*, yakni cedera yang hanya memerlukan pertolongan pertama saja, dan *medical treatment injury*, yang memerlukan sedikit pengobatan medis namun tidak mengakibatkan pekerja berhenti bekerja.

## 2.4 MANAJEMEN RISIKO

Manajemen risiko adalah suatu pendekatan terstruktur/metodologi dalam mengelola ketidakpastian yang berkaitan dengan ancaman; suatu rangkaian aktivitas manusia termasuk: penilaian risiko, pengembangan strategi untuk mengelolanya dan mitigasi risiko dengan menggunakan pemberdayaan/pengelolaan sumberdaya (Ramli, 2010).

Strategi yang dapat diambil antara lain adalah memindahkan risiko kepada pihak lain, menghindari risiko, mengurangi efek negatif risiko, dan menampung sebagian atau semua konsekuensi risiko tertentu. Manajemen risiko tradisional terfokus pada risiko-risiko yang timbul oleh penyebab fisik atau legal seperti bencana alam atau kebakaran, kematian, serta tuntutan hukum.

Manajemen risiko merupakan tindakan dalam menghadapi risiko, dimana hal tersebut meliputi perencanaan risiko, penilaian (identifikasi dan analisa) risiko, pengembangan strategi penanganan risiko, dan pengawasan risiko untuk mengetahui bagaimana risiko tersebut berubah. Perencanaan risiko merupakan proses pengembangan dan dokumentasi suatu strategi dan metode yang terorganisasi, komprehensif, dan interaktif untuk melakukan identifikasi dan analisa kejadian risiko, mengembangkan rencana penanganan risiko, serta mengawasi bagaimana risiko tersebut berubah. Identifikasi risiko merupakan proses untuk mengidentifikasi dan dokumentasi risiko-risiko yang berkaitan,



sedangkan analisa risiko merupakan proses pengenalan risiko untuk melakukan estimasi kemungkinan risiko dan memprediksi dampaknya pada proyek. Sedangkan penanganan risiko meliputi proses identifikasi, evaluasi, pemilihan, dan implementasi satu atau lebih strategi untuk menjadikan risiko berada pada level yang dapat diterima sesuai dengan tujuan dan batasan yang diberikan. Pengawasan risiko merupakan proses yang secara sistematis melakukan plot dan evaluasi kerja penanganan risiko melalui pengukuran yang memberikan input untuk melakukan pembaharuan pada strategi penanganan risiko yang tepat. (Kerzner, 2009)

Dalam hubungannya dengan manajemen risiko keselamatan kerja, maka sasaran dari pelaksanaan manajemen risiko tersebut adalah untuk mengurangi risiko yang berkaitan dengan kecelakaan kerja dan berusaha meningkatkan keselamatan kerja. Subyek dan obyek dari manajemen risiko ini adalah sumber daya manusia yang bersangkutan. Aspek lain seperti lingkungan, peralatan dan prosedur adalah aspek pendukung yang tidak kalah penting juga.

Salah satu sistem manajemen keselamatan kerja yang berlaku global adalah OHSAS 18001. Menurut OHSAS 18001, manajemen keselamatan dan kesehatan kerja (K3) adalah upaya terpadu untuk mengelola risiko yang ada dalam aktifitas perusahaan. Manajemen risiko dikategorikan menjadi 3 bagian yakni, *Hazard identification*, *Risk Assessment* dan *Risk Control* (HIRARC).



Gambar 2. 8 Hubungan Manajemen Risiko dan Sistem Manajemen K3 (Ramli, 2010)



Dari paparan di atas proses manajemen risiko mencakup beberapa komponen sebagai berikut:

1. identifikasi risiko
2. analisa resiko
3. penanganan risiko
4. pengawasan risiko

#### **2.4.1 Identifikasi Risiko**

Salah satu tahapan dalam manajemen risiko adalah identifikasi risiko, dimana dalam tahap ini dilakukan identifikasi terhadap kejadian-kejadian risiko yang potensial terjadi. Kejadian-kejadian risiko yang potensial dapat dihasilkan dari survey terhadap proyek, pekerja, ataupun praktisi. Sumber informasi dapat diklasifikasikan menjadi 2 (dua) sumber, yaitu sebagai berikut:

1. Sumber obyektif : pengalaman yang dicatat dari proyek-proyek masa lalu dan masa sekarang, melalui pembelajaran dokumen proyek, evaluasi dokumentasi program dan kinerja saat ini.
2. Sumber subyektif: pengalaman berdasarkan pengetahuan para ahli di bidangnya, melalui interview dan pengumpulan data-data lain dari para ahli.

Sumber-sumber informasi yang dapat dijadikan rujukan dalam melakukan identifikasi risiko yang potensial terhadap suatu proyek, yaitu:

- a) Analisa asumsi
- b) Estimasi biaya dasar
- c) *Brainstorming*
- d) Checklist
- e) Analisa biaya
- f) Pengendalian keputusan
- g) Teknik diagram (*cause-effect diagram*)
- h) Analisa *earned value*
- i) Justifikasi ahli
- j) Pembelajaran dokumen proyek
- k) Analisa biaya siklus hidup



- l) Permodelan
- m) Perencanaan/komposisi work breakdown structure
- n) Analisa jadwal
- o) Dokumentasi teknik sistem
- p) Analisa teknologi
- q) Dokumentasi teknik sistem
- r) Pengukuran kinerja teknis
- s) Analisa teknologi
- t) Analisa pertukaran / *Trade Off*

(Kerzner, 2009)

Tujuan dalam melakukan identifikasi risiko adalah untuk mengurangi ketidakpastian dalam faktor-faktor yang berkontribusi dalam kecelakaan, cedera, penyakit, dan kematian.

Identifikasi risiko melibatkan identifikasi bahaya. Identifikasi risiko dilakukan untuk menentukan apa dan bagaimana pengaruh dalam suatu situasi berlaku untuk yang lain. Hal ini melibatkan pengumpulan fakta dan data. Dalam identifikasi risiko, data dianalisis untuk menentukan apa saja komponen yang berkontribusi pada proses yang menghasilkan cedera atau penyakit dan untuk menentukan apakah data dari kasus-kasus tertentu tersebut dapat digeneralisasi untuk situasi yang lain.

Risiko berubah seiring dengan waktu. Proses mengidentifikasi risiko perlu dilakukan terus-menerus dan dengan pendekatan yang sistematis. Identifikasi risiko melibatkan identifikasi bahaya dan identifikasi hal-hal yang mungkin salah dalam pengerjaannya dan menimbulkan risiko dan mungkin mengakibatkan kerugian yang potensial.

Ada banyak teknik untuk mengidentifikasi risiko. Mengenali sumber bahaya adalah elemen yang penting. Pendekatan yang lain adalah belajar dari sejarah masa lalu mengenai kecelakaan dan pengetahuan sebelumnya untuk menghilangkan bahaya. Pendekatan yang lain adalah dengan menerapkan teknik yang sistematis, seperti sistem keamanan berjenjang dan analisis lainnya. Metode ini mungkin memerlukan orang yang spesialis di bidangnya untuk membantu mengidentifikasi risiko, karena spesialis memiliki pengetahuan yang unik,



pengalaman yang banyak dan mungkin akan mengenali bahaya yang orang lain mungkin mengabaikannya. Daftar bahaya dan kondisi yang dapat menghasilkan bahaya dapat dibuat dan dapat digunakan untuk perbandingan antara hal yang diusulkan dengan aktual operasi, proses, peralatan, atau sistem. Terkadang analisis energi dan energi yang dilepaskan digunakan untuk mengidentifikasi kegagalan dalam sistem yang mungkin terjadi dan apa konsekuensinya. Kadang-kadang analisis perilaku manusia dan faktor-faktor pendukung yang mendasari tindakan manusia dapat membantu dalam mengidentifikasi risiko.

Data frekuensi dan tingkat keparahan dari kecelakaan dapat membantu mengidentifikasi risiko. Catatan kecelakaan dan klasifikasi data kecelakaan dapat membantu. Berbagai metode statistik diterapkan pada data kecelakaan akan membantu mengungkapkan tren dalam hal kerugian (losses) dan faktor apa saja yang berkontribusi pada kecelakaan dan cedera.

Dalam proses identifikasi terdapat suatu tahap yang krusial, yaitu pengelompokan risiko berdasarkan kategori. Pengelompokan kategori risiko menyediakan metode untuk mengorganisir risiko proyek ke dalam pengelompokan yang logis. Pada Tabel 2. 3 dapat diketahui beberapa kategori risiko.

Tabel 2. 3 Kategori Risiko

Kategori Risiko	Deskripsi
Internal	Risiko yang berasal dari dalam proyek atau organisasi.
Eksternal	Risiko yang berasal dari luar proyek atau organisasi
Keuangan	Risiko yang berkaitan dengan pendapatan, keuntungan tingkat pengembalian investasi, budget proyek, biaya proyek.
Teknis dan Kinerja	Risiko yang berkaitan dengan aspek-aspek teknis proyek dan pengukuran kinerja proyek.
Bisnis	Risiko yang berkaitan dengan pemasaran, keterlambatan dari supplier, isu-isu manajemen, dan informasi pesaing.
Organisasional	Risiko yang berkaitan dengan organisasi itu sendiri.
Budaya	Risiko yang berkaitan dengan perbedaan budaya antar unsur organisasi.
Keamanan	Risiko yang berkaitan dengan keamanan informasi, personel, aset, dan hak-hak intelektual.
Manajemen Proyek	Risiko yang berkaitan dengan proses manajemen proyek, kedewasaan dan kemampuan organisasi.
Legal	Risiko yang berkaitan dengan isu-isu hukum yang mungkin



Kategori Risiko	Deskripsi
	berpengaruh pada proyek/organisasi.
Lingkungan	Risiko yang berkaitan dengan proyek yang mungkin memberikan dampak lingkungan.
Lingkup kerja	Risiko yang berkaitan dengan lingkup pekerjaan suatu proyek.
Kualitas	Risiko yang berkaitan dengan kualitas proyek atau produk dari proyek.
Waktu/Jadwal	Risiko yang berkaitan dengan estimasi aktifitas dan jadwal.
Proses	Risiko yang berkaitan dengan proses bisnis atau proses lain yang berdampak pada organisasi, konsumen, dan proyek.

(Heldman, 2005)

#### 2.4.2 Identifikasi Risiko dengan Diagram Pareto

Diagram Pareto dikembangkan oleh Vilfredo Frederigo Samoso pada akhir abad ke-19 merupakan pendekatan *logic* dari tahap awal pada proses perbaikan suatu situasi yang digambarkan dalam bentuk histogram yang dikenal sebagai konsep *vital few and the trivial many* untuk mendapatkan penyebab utamanya.

Diagram Pareto merupakan metode standar dalam memilih masalah-masalah utama dan merupakan suatu pendekatan sederhana yang dapat dipahami. Diagram Pareto merupakan suatu gambar yang mengurutkan klasifikasi data dari kiri ke kanan menurut urutan *ranking* tertinggi hingga terendah. Hal ini dapat membantu menemukan permasalahan yang terpenting untuk segera diselesaikan (*ranking* tertinggi) sampai dengan yang tidak harus segera diselesaikan (*ranking* terendah).

Diagram Pareto dibuat berdasarkan data statistik dan prinsip bahwa 80% penyebab bertanggungjawab terhadap 20% masalah yang muncul atau sebaliknya. Dengan prinsip 80/20, maka dapat ditentukan prioritas risiko yang akan ditangani. Ada beberapa tahap yang tercakup dalam pembuatan diagram Pareto, seperti :

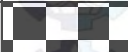
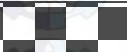


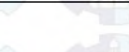




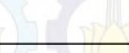
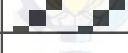
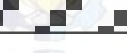








1. Mengumpulkan data dan informasi sebanyak mungkin yang menunjukkan sifat dan frekuensi peristiwa tersebut.
2. Menentukan kategori yang akan digunakan untuk menganalisa data tersebut.
3. Mengalokasikan frekuensi peristiwa menjadi kategori yang berbeda.
4. Menghitung frekuensi tersebut ke dalam persentase.
5. Membuat diagram batang.
6. Mengurutkan diagram batang tersebut mulai dari yang terbanyak.

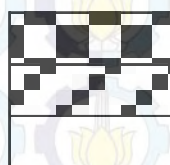


### 2.4.3 Analisa Risiko

Analisis risiko adalah menerapkan teknik kualitatif atau kuantitatif terhadap potensi risiko. Hal ini dilakukan untuk mengurangi ketidakpastian dalam mengukur risiko dan biasanya melibatkan nilai frekuensi dan tingkat keparahan. Frekuensi berhubungan dengan seberapa sering kemungkinan (*likelihood*) bahwa suatu peristiwa akan terjadi atau bahwa bahaya akan hadir. Sedangkan tingkat keparahan (*severity*) adalah efek dari suatu peristiwa ketika itu terjadi. Hal ini diukur dalam kematian, cedera, penyakit, atau kehilangan peralatan atau properti dan juga bisa diartikan dalam nilai uang yang hilang.

Tabel 2. 4 Matrix penilaian risiko  
RISK ASSESSMENT MATRIX

HAZARD SEVERITY	PROBABILITY				
	Frequent	Probable	Occasional	Remote	Improbable
Catastrophic					
Critical					
Marginal					
Negligible					



Risk reduction required

Written, time limited endorsed by management required

Operation permissible

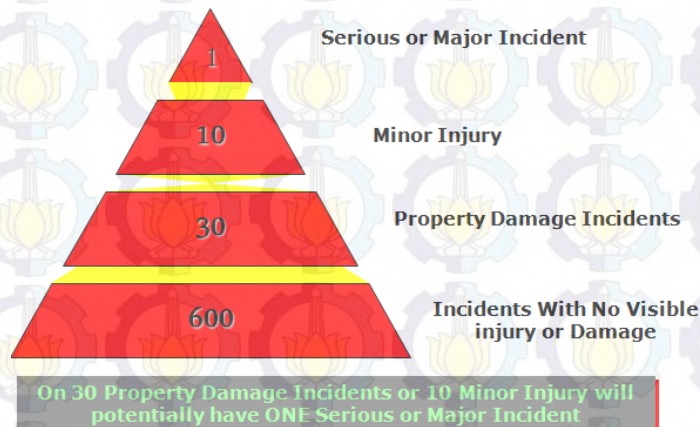
Tabel 2. 5 Klasifikasi tingkat keparahan (*severity*)

Description	Category	Mishap Definition
Catastrophic	I	Death or system loss
Critical	II	Severe injury, severe occupational illness, or major system damage
Marginal	III	Minor injury, minor occupational illness, or minor system damage
Negligible	IV	Less than minor injury, occupational illness, or system damage

Sangat sulit untuk mengukur/mengkuantifikasi semua risiko. Ada banyak hal di mana risiko analisis kualitatif lebih layak. (Brauer, 2006)



Dari hasil studi mengenai rasio kecelakaan kerja, sesuai piramida insiden berikut, dari 600 insiden yang tidak menyebabkan cedera, berpotensi menimbulkan 30 insiden yang menyebabkan kerusakan properti, 10 cedera ringan dan 1 kecelakaan serius/fatal.



Gambar 2. 9 Piramida insiden (Bird & Germain, 1990)

Potensi bahaya adalah :

- Setiap kondisi yang bisa menyebabkan insiden
- Setiap kondisi mengganggu atau mengganggu urutan proses atau kegiatan
- Setiap kondisi berpotensi untuk mendapatkan cedera manusia, kerusakan harta benda, hilang atau mengurangi kapasitas.

Analisa risiko adalah untuk menentukan besarnya suatu risiko yang dicerminkan dari kemungkinan terjadinya (*likelihood*) dan besar akibat/keparahan yang ditimbulkannya (*severity*).

Beberapa metode yang digunakan untuk melakukan analisa risiko antara lain adalah metode kualitatif dan metode kuantitatif.

- Metode Kualitatif

Metode kualitatif menggunakan matrik risiko yang menggambarkan tingkat dari kemungkinan dan keparahan suatu kejadian yang dinyatakan dalam suatu range, mulai dari yang paling rendah hingga yang paling tinggi. Menurut standard AS/NZS 4360, kemungkinan (*likelihood*) diberi rentang antara suatu risiko yang jarang terjadi sampai dengan risiko yang dapat terjadi setiap saat. Sedangkan tingkat keparahan (*severity*) dikategorikan antara kejadian yang tidak



menimbulkan cedera atau hanya kerugian kecil hingga yang paling parah dapat menimbulkan kematian (*fatality*).

Ukuran kualitatif dari kemungkinan (*likelihood*) dijelaskan dalam Tabel 2. 6 sedangkan ukuran kualitatif untuk keparahan (*severity*) dapat dilihat dari Tabel 2. 7

Tabel 2. 6 Ukuran kualitatif dari kemungkinan (*likelihood*) AS/NZS 4360

Level	Deskripsi	Uraian
<b>A</b>	Almost certain	Dapat terjadi setiap saat
<b>B</b>	Likely	Kemungkinan terjadi sering
<b>C</b>	Possible	Dapat terjadi sekali-sekali
<b>D</b>	Unlikely	Kemungkinan terjadinya jarang

Tabel 2. 7 Ukuran kualitatif dari keparahan (*severity*) AS/NZS 4360

Level	Deskripsi	Uraian
<b>1</b>	<i>Insignificant</i>	Tidak terjadi cedera, kerugian finansial kecil
<b>2</b>	<i>Minor</i>	Cedera ringan, kerugian finansial sedang
<b>3</b>	<i>Moderate</i>	Cedera sedang, perlu penanganan medis, kerugian finansial besar
<b>4</b>	<i>Major</i>	Cedera berat lebih dari satu orang, kerugian besar, gangguan produksi
<b>5</b>	<i>Catastrophic</i>	Fatal lebih dari satu orang, kerugian sangat besar dan dampaknya luas dan panjang, terhentinya seluruh kegiatan.

#### b. Metode Kuantitatif

Analisa risiko kuantitatif menggunakan perhitungan probabilitas kejadian atau konsekuensinya dengan data numerik. Besarnya risiko dinyatakan dalam angka seperti 1,2,3 atau 4 yang mana nilai angka 2 mengandung arti risikonya dua kali lipat dibanding nilai angka 1. Contoh hasil analisa kuantitatif dijelaskan dalam Tabel 2. 8.



Tabel 2. 8 Contoh hasil analisa kuantitatif

Deskripsi	Nilai peluang
Sambaran petir	1 dalam 10 juta kejadian
Kebakaran/ledakan di rumah	1 dalam 1 juta
Mati dalam industri yang aman	1 dalam 100.000
Terbang dengan pesawat komersil	1 dalam 100.000
Mati dalam kecelakaan lalu lintas	1 dalam 10.000
Mati di pertambangan	1 dalam 1000
Merokok	1 dalam 200

Dari data di atas dapat terlihat perbandingan yang jelas, kemungkinan kecelakaan lalu lintas 10 kali lebih besar dari pada menggunakan pesawat terbang.

Teknik analisa kuantitatif antara lain sebagai berikut:

- Fault tree analysis* (FTA)
  - Analisa lapis proteksi (*Layer of Protection Analysis*-LOPA)
  - Analisa risiko kuantitatif (*Quantitative Risk Analysis*-QRA)
- (Ramli, 2010)

#### 2.4.4 Analisa dengan FTA (*Fault Tree Analysis*)

Analisa risiko adalah untuk menentukan besarnya suatu risiko yang dicerminkan dari kemungkinan terjadinya (*likelihood*) dan besar akibat/keparahan yang ditimbulkannya (*severity*). Analisa risiko yang digunakan dalam penelitian ini adalah analisa kuantitatif menggunakan perhitungan probabilitas kejadian dengan *Fault Tree Analysis* (FTA) atau analisa pohon kegagalan yang mana akan dapat diketahui penyebab-penyebab dan juga kombinasi yang dapat menyebabkan terjadinya kecelakaan. Analisis pohon kesalahan atau *Fault Tree Analysis* (FTA) dikembangkan pada tahun 1962 untuk Angkatan Udara Amerika Serikat oleh “*Bell Telephone Laboratories*” untuk digunakan dengan sistem *Minuteman*, kemudian diadopsi dan diterapkan secara luas oleh perusahaan Boeing.

FTA adalah teknik yang paling umum digunakan untuk analisa sebab-akibat dalam studi keandalan (*reliability*) dan risiko. Analisis pohon kesalahan (FTA) adalah pendekatan dari atas ke bawah (*top-down*) untuk menganalisa



kegagalan, dimulai dengan suatu peristiwa potensial yang tidak diinginkan (kecelakaan) yang disebut sebagai sebuah peristiwa puncak (*top event*), dan kemudian menentukan semua cara mengenai bagaimana hal tersebut bisa terjadi. Analisis hasil dilakukan dengan menentukan bagaimana peristiwa puncak dapat disebabkan oleh suatu kegagalan tingkat yang lebih rendah atau merupakan gabungan suatu kegagalan atau peristiwa. Penyebab peristiwa puncak (*top event*) terhubung dengan gerbang-gerbang logika (*logic gates*).

*Fault Tree Analysis* (FTA) atau analisa pohon kegagalan adalah teknik yang memberikan penjelasan sistematis dari kombinasi kejadian-kejadian yang mungkin dalam sistem yang mengakibatkan kerusakan. Pada dasarnya, *fault tree* adalah diagram logika dimana gerbang-gerbang logika digunakan untuk menentukan hubungan antara peristiwa-peristiwa. Analisis *Fault-Tree* menggunakan aljabar “*Boolean*” yang di analisis logikanya dan kemungkinan kerusakan/kegagalan/kecelakaan dihitung untuk tiap peristiwa.

Analisis *Fault-Tree* sangat baik digunakan untuk kasus-kasus dengan karakteristik sebagai berikut:

1. Mempunyai potensi kehilangan yang besar dan berisiko tinggi.
2. Melibatkan banyak potensi kontributor dalam suatu kecelakaan.
3. Kompleks atau berupa multi-elemen sistem / proses.
4. Untuk mengidentifikasi kejadian yang tidak diinginkan.
5. Penyebab kecelakaan tak terlihat.

Ericson (2000) mendeskripsikan FTA sebagai alat (*tool*), analisa, model, maupun metodologi, yang mempunyai sifat-sifat sebagai berikut:

- a. sebagai alat:
  - i. mengevaluasi sistem yang kompleks
  - ii. mengidentifikasi terjadinya suatu peristiwa yang tidak diinginkan.
  - iii. Untuk menginvestigasi masalah keselamatan, keandalan (*reliability*), ketidaktersediaan (*unavailability*) maupun kecelakaan (*accident*)
- b. Sebagai media analisis:
  - i. Mengidentifikasi akar penyebab (*root cause*) terjadinya suatu peristiwa.



- ii. Bersifat deduktif (bermula dari umum (*general*) berakhir dengan suatu hal yang spesifik).
  - iii. Menyediakan penilaian risiko (*risk assessment*)
    - *Cut sets* (kualitatif)
    - Probabilitas (kuantitatif)
  - c. Sebagai model:
    - i. Visual.
    - ii. Menampilkan hubungan sebab-akibat.
    - iii. Ada peristiwa kegagalan (*fault event*), peristiwa normal (*normal event*) dan jalurnya (*paths*).
    - iv. Ada probabilitas
  - d. Sebagai metodologi:
    - i. Tertentu, terstruktur dan bersifat *rigorous*.
    - ii. Menggunakan aljabar “*Boolean*”, teori realibilitas, teori probabilitas, dan *logic*.
    - iii. Mengikuti hukum-hukum fisika, kimia dan teknik.
- (Ericson, Fault Tree Analysis, 2000)

Dalam analisa *fault tree*, dikenal beberapa istilah penting seperti *cut sets* dan minimum *cut sets*. *Cut sets* adalah kumpulan beberapa peristiwa dasar (*basic events*), bilamana peristiwa-peristiwa dasar tersebut terjadi secara bersamaan maka akan menyebabkan peristiwa puncak (*top event*) terjadi pula. Sedangkan *minimum cut sets* adalah syarat minimal dari kumpulan beberapa peristiwa dasar yang mana akan menyebabkan peristiwa puncak terjadi.

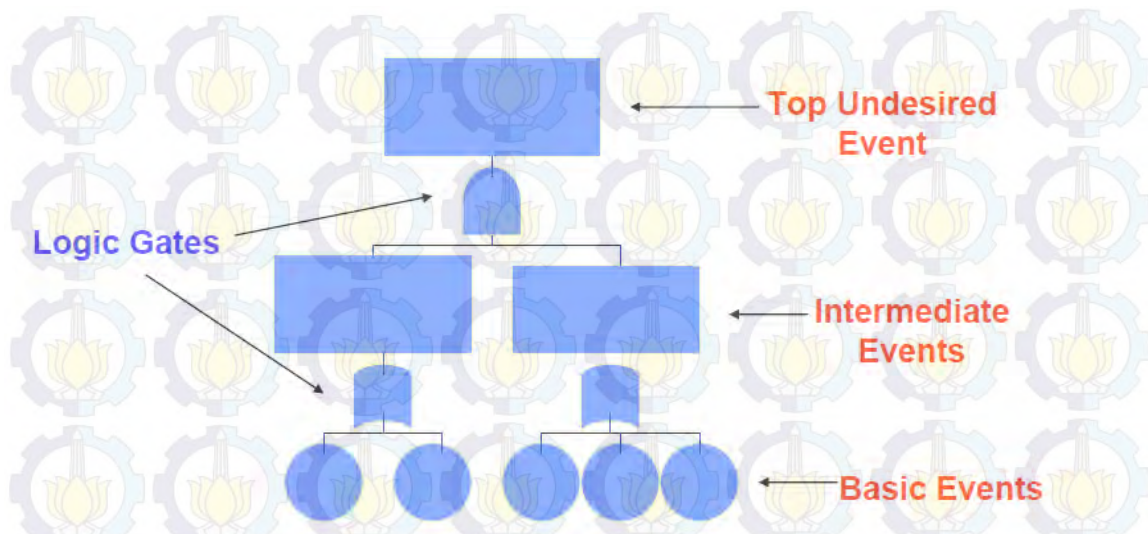
Simbol-simbol yang digunakan di dalam analisa *fault tree* ditunjukkan dalam Tabel 2. 9, dimana simbol untuk *logic gate* OR dan AND adalah yang paling sering digunakan. Sedangkan contoh bagan sederhana mengenai analisa *fault tree* dapat dilihat pada Gambar 2. 10. Mengenai langkah-langkah dalam analisa *fault tree* dijelaskan pada Gambar 2. 11. Dan diagram alir proses analisa *fault tree* menurut Erickson dijelaskan pada Gambar 2. 12.



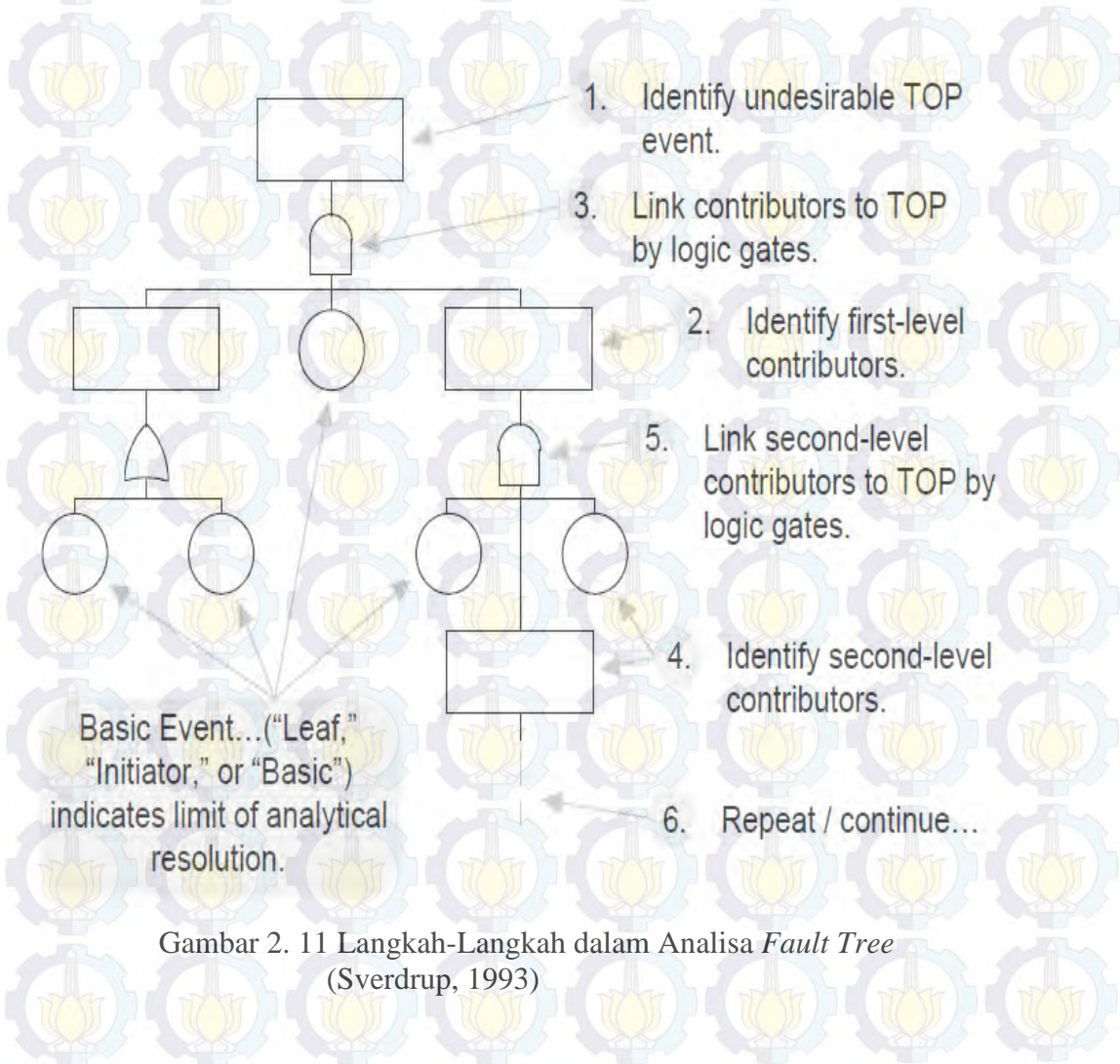
Tabel 2. 9 Simbol-simbol dalam FTA (Goldberg, 1981)

 <b>BASIC EVENT</b>	Kejadian dasar dan tidak memerlukan pengembangan lebih lanjut
 <b>CONDITIONAL EVENT</b>	Kejadian kondisional yang spesifik yang mempengaruhi gerbang logis terutama <i>PRIORITY AND</i>
 <b>UNDEVELOPED EVENT</b>	Kejadian yang tidak dikembangkan lebih lanjut karena kurang atau tidak adanya informasi
 <b>EXTERNAL EVENT</b>	Kejadian yang secara normal memang terjadi
 <b>INTERMEDIATE EVENT</b>	Kejadian kegagalan yang terjadi karena ada sebab yang melewati gerbang logis
 <b>AND</b>	Output akan terjadi apabila semua input terjadi
 <b>OR</b>	Output akan terjadi apabila salah satu input terjadi
 <b>EXCLUSIVE OR</b>	Output akan terjadi hanya saat satu input terjadi
 <b>PRIORITY AND</b>	Output terjadi jika input terjadi secara berurutan
 <b>TRANSFER</b>	Pohon kegagalan dikembangkan dalam halaman yang berbeda



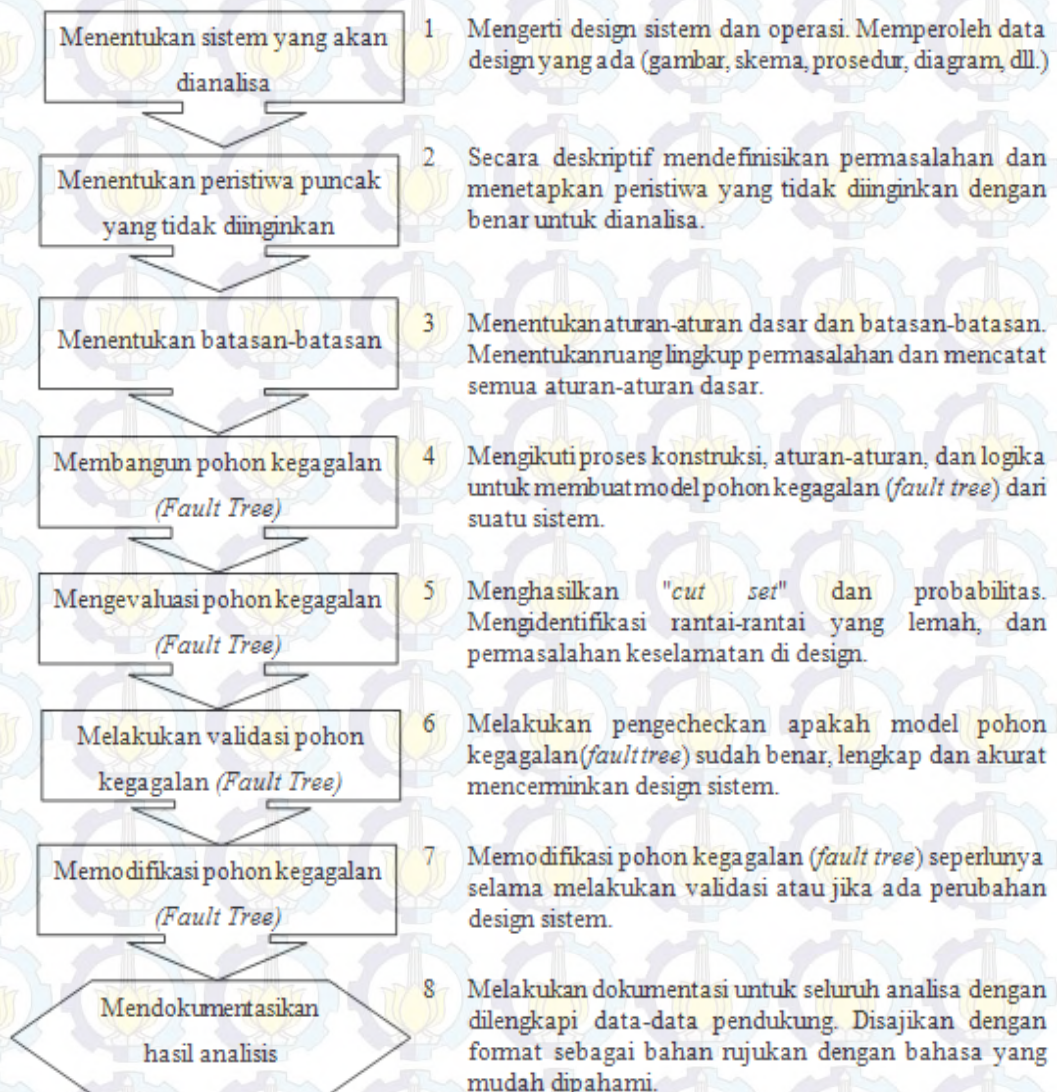


Gambar 2. 10 Bagan/Struktur Sederhana Analisa *Fault Tree* (Sverdrup, 1993)



Gambar 2. 11 Langkah-Langkah dalam Analisa *Fault Tree* (Sverdrup, 1993)





Gambar 2. 12 Diagram Proses *Fault Tree* (Erickson, 1996)

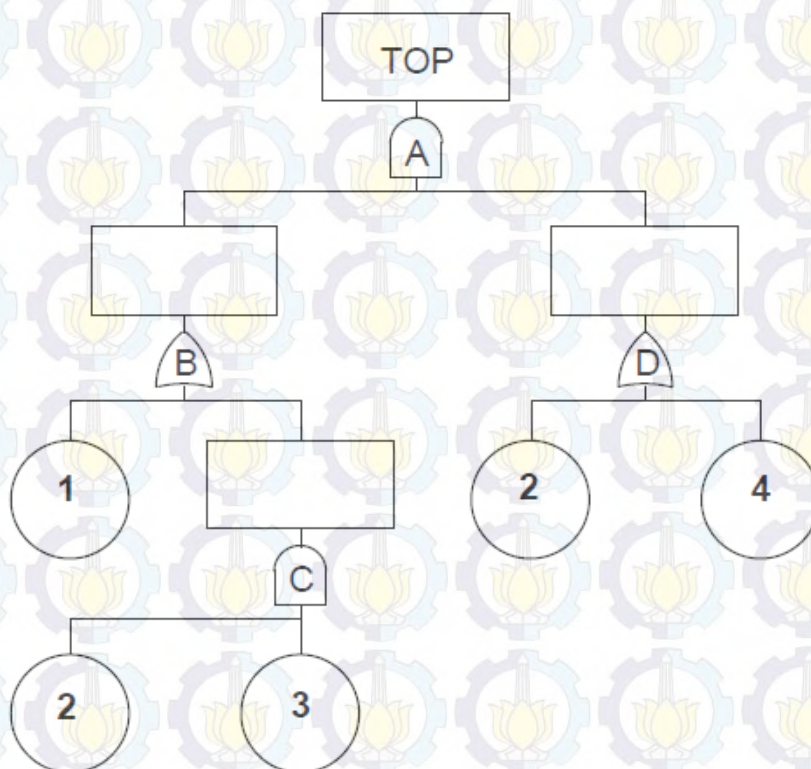
Algoritma dalam mencari *cut sets* adalah sebagai berikut:

1. Memulai dari *logic* dibawah *top event*, dengan memberikan tanda yang unik yakni huruf untuk setiap *gate* dan angka untuk setiap inisiator atau *basic events*.
2. Melanjutkan secara bertahap dari atas (*top event*) ke bawah, buat suatu matriks dengan menggunakan huruf dan angka. Huruf yang mewakili *gate* dari *top event* menjadi pembuka pertama untuk matriks tersebut.
3. Dalam pembuatan matriks selanjutnya, gantilah huruf pada setiap *AND gate* dengan huruf-huruf ataupun angka-angka untuk semua *gate* ataupun



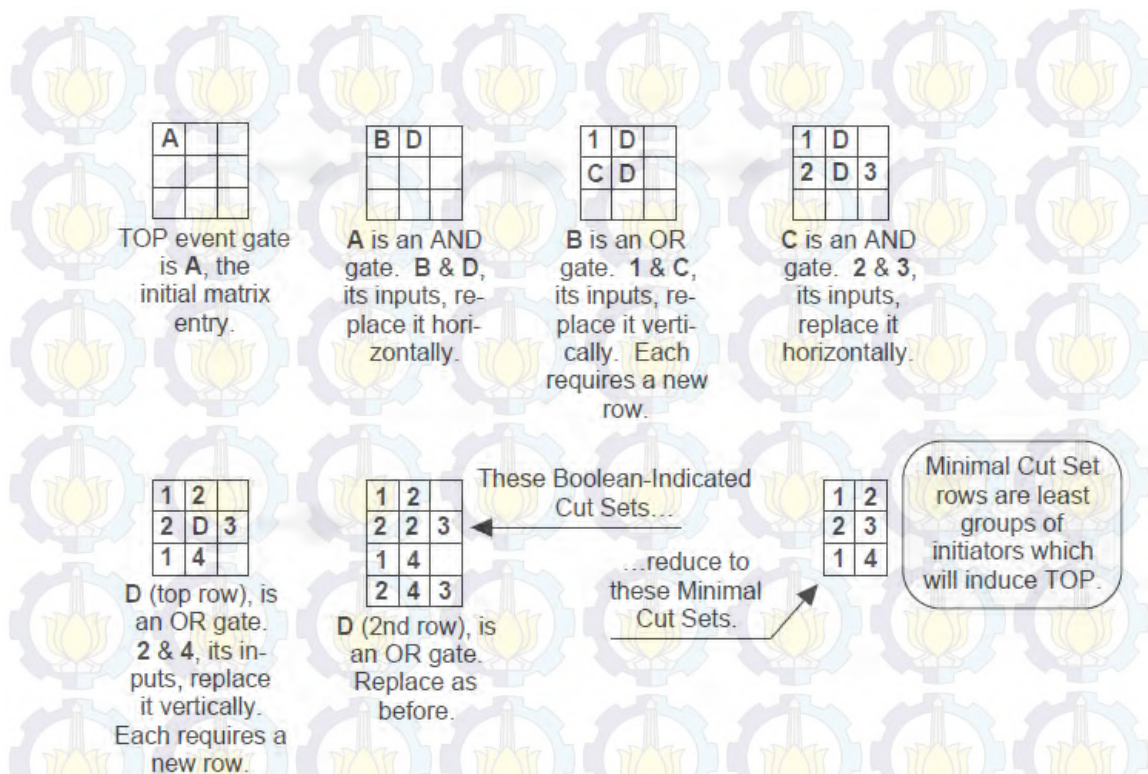
inisiator yang merupakan inputnya. Tunjukkan secara horizontal dalam baris matriks.

4. Gantilah huruf pada setiap *OR gate* dengan huruf-huruf ataupun angka-angka untuk semua *gate* ataupun inisiator yang merupakan inputnya. Tunjukkan secara vertical dalam kolom matriks. Setiap pembentukan baris baru akibat penggantian *OR gate*, maka harus memasukkan semua masukkan (*entries*) yang ada pada baris asalnya (*parent row*).
5. Matriks terakhir yang dihasilkan hanya menampilkan angka-angka yang merupakan inisiator. Setiap baris pada matriks terakhir tersebut mengindikasikan *Boolean Cut Sets*.
6. Menginspeksi dengan melakukan eliminasi pada baris yang isinya sama dengan elemen pada baris yang lebih sedikit. Kemudian mengeliminasi elemen-elemen yang berlebihan pada baris tersebut. Dan juga mengeliminasi baris-baris yang merupakan duplikasi baris yang lain. Baris yang tersisa merupakan *minimum cut sets*.



Gambar 2. 13 Cara pemberian tanda unik dengan huruf dan angka (Erickson, 1996)





Gambar 2. 14 Cara membuat matriks untuk mencari *minimum cut sets* (Erickson, 1996)

## 2.4.5 Evaluasi Risiko

Evaluasi risiko diperlukan untuk mengetahui apakah suatu risiko dapat diterima atau tidak. Untuk mendapatkan gambaran yang jelas dan tepat mengenai risiko, dilakukan penentuan peringkat risiko atau prioritas risiko.

Ada beberapa pendekatan dalam menentukan prioritas risiko, antara lain dengan membagi risiko menjadi 3 kategori :

- Secara umum dapat diterima (*generally acceptable*)
- Dapat ditolerir (*tolerable*)
- Tidak dapat diterima (*generally unacceptable*)

(Ramli, 2010)

## 2.4.6 Penanganan Risiko

Jika suatu risiko diketahui, perlu dilakukan usaha untuk dapat menghilangkannya. Namun hal tersebut sulit atau bahkan tidak mungkin untuk menghilangkan semua risiko, dan beberapa hanya dapat dikurangi. Ketika ada



banyak risiko harus dihadapi sekaligus/bersamaan atau di saat sumber daya terbatas, masalahnya adalah menentukan risiko mana yang akan diatasi terlebih dahulu. Hal ini membutuhkan penentuan skala prioritas. Ada beberapa metode untuk menetapkan skala prioritas. Analisis biaya dan manfaat dapat digunakan untuk menentukan skala prioritas.

Metode kuantitatif atau kualitatif dapat diterapkan untuk menetapkan skala prioritas. Cara alternatif untuk mengeliminasi atau mengurangi risiko harus dieksplorasi. Dua faktor kunci yaitu biaya untuk setiap tindakan yang diimplementasikan dan tingkat pengurangan yang dicapai untuk masing-masing.

Tabel 2. 10 Klasifikasi tingkat kemungkinan (probabilitas)

Description <sup>a</sup>	Level	Specific Individual Item	Fleet <sup>b</sup> or Inventory
<b>Frequent</b>	A	Likely to occur frequently	Continuously experienced
<b>Probable</b>	B	Will occur several times in the life of an item	Will occur frequently
<b>Occasional</b>	C	Likely occur several times in the life of an item	Will occur several times
<b>Remote</b>	D	Unlikely but possible to occur in the life of an item	Unlikely but can reasonably be expected to occur
<b>Improbable</b>	E	So unlikely, it can be assumed occurrence may not be experienced	Unlikely to occur, but possible

<sup>a</sup> Definition of descriptive words may have to be modified based on quality involved.

<sup>b</sup> The size of the fleet or inventory should be defined.

(Brauer, 2006)

Tabel 2. 11 Contoh klasifikasi pembiayaan risiko

Category	Value
<b>A</b>	< \$ 1,000
<b>B</b>	\$ 1,000 – 10,000
<b>C</b>	\$ 10,000 – 100,000
<b>D</b>	> \$ 100,000

(Brauer, 2006)

Klasifikasi tingkat keparahan risiko dan probabilitas ditunjukkan pada Tabel 2. 7 dan Tabel 2. 6, sedangkan penilaian risiko ditunjukkan dengan matriks penilaian risiko dalam Tabel 2. 4.

Beberapa strategi dalam menangani risiko telah dibuat untuk membantu menghadapi risiko, yaitu:

- Avoidance* (pencegahan)
- Transference* (pelimpahan ke pihak lain)
- Mitigation* (minimasi/optimasi)



- d. *Acceptance* (penerimaan)
  - e. *Contingency Planning* (perencanaan kontingensi)
- (Brauer, 2006)

#### **2.4.6.1 Risk Avoidance**

Metode untuk mencegah atau menghindari risiko dapat dilakukan dengan hal-hal sebagai berikut:

- a. Mencegah atau menghindari risiko.
- b. Mencegah penyebab dari kejadian risiko.
- c. Mengubah rencana proyek untuk melindungi atau mengamankan tujuan proyek tersebut dari kejadian risiko.

Metode ini biasanya digunakan untuk menangani risiko terhadap *scope* dan keterlambatan proyek, dimana tindakan yang dilakukan adalah:

- a. Mengumpulkan spesifikasi dan melakukan *breakdown* menjadi komponen yang paling kecil.
- b. Melakukan dokumentasi terhadap scope pekerjaan.
- c. Menyiapkan jadwal pekerjaan yang secara akurat mencerminkan pekerjaan proyek.
- d. Mengawasi proyek agar sesuai dengan rencana.

(Heldman, 2005)

#### **2.4.6.2 Risk Transference**

*Transference* merupakan tindakan/metode penanganan risiko untuk memindahkan atau mengalihkan risiko beserta dampaknya kepada pihak lain. Metode-metodenya meliputi hal-hal sebagai berikut:

- a. Menggunakan jasa asuransi
- b. Menggunakan sistem kontrak dengan supplier.
- c. Menggunakan jaminan kualitas produk dari produsen (*warranty*).
- d. Menggunakan jaminan kualitas produk dari distributor.
- e. *Performance bond*/jaminan kerja.

Metode penanganan ini paling efektif ketika berkaitan dengan risiko keuangan. Namun, metode ini memerlukan biaya yang relatif lebih besar bagi pelaku



proyek, sehingga dalam memilih metodenya perlu dipertimbangkan biayanya dalam budget proyek. (Heldman, 2005)

#### **2.4.6.3 Risk Mitigation (Optimasi/Mitigasi)**

Mitigasi merupakan tindakan penanganan risiko dengan melakukan optimasi pekerjaan di proyek untuk mengurangi kemungkinan terjadinya kejadian risiko, serta mengurangi dampak dari kejadian risiko tersebut pada level yang diijinkan. Tindakan / metode ini merupakan yang paling umum digunakan dalam menangani risiko.

#### **2.4.6.4 Risk Acceptance**

*Acceptance* merupakan tindakan penanganan risiko, dimana tidak dilakukan langkah/rencana apapun untuk mencegah atau meminimasi risiko tersebut, dengan alasan tim pengawas proyek tidak mampu menyusun strategi yang tepat untuk menangani risiko.

#### **2.4.6.5 Contingency Planning (Perencanaan Kontingensi)**

Rencana kontingensi meliputi perencanaan alternatif penanganan terhadap risiko sesuai dengan kondisi pada waktu risiko tersebut terjadi, dimana metode ini tidak sama dengan metode mitigasi. Metode ini mengenali risiko-risiko yang berpotensi terjadi, kemudian menyusun rencana untuk mengatasi dampak yang ditimbulkan dari terjadinya risiko-risiko yang berpotensi tersebut. Metode ini digunakan untuk menangani risiko yang tidak diketahui dengan hasil yang tidak diketahui pula. (Heldman, 2005)

OHSAS 18001 (2007) memberikan pedoman pengendalian risiko yang lebih spesifik untuk bahayas keselamatan kerja dengan pendekatan sebagai berikut;

1. Eliminasi
2. Substitusi
3. Pengendalian teknis (*engineering control*)
4. Pengendalian administratif
5. Penggunaan alat pelindung diri



Menurut standard AS/NZS 4360 (2004), pengendalian risiko secara umum dilakukan dengan pendekatan sebagai berikut:

1. Hindarkan risiko dengan mengambil keputusan untuk menghentikan kegiatan atau penggunaan proses, bahan, alat yang berbahaya.
2. Mengurangi kemungkinan terjadi (*reduce likelihood*).
3. Mengurangkan konsekuensi kejadian (*reduce consequences*).
4. Mengalihkan risiko ke pihak lain (*risk transfer*).
5. Menanggung risiko yang tersisa. Penanganan risiko tidak mungkin menjamin risiko atau bahaya hilang 100%, sehingga masih ada sisa risiko (*residual risk*) yang harus dipertanggungjawabkan.







## **BAB 3**

### **METODOLOGI PENELITIAN**

#### **3.1 PENDAHULUAN**

Penelitian merupakan serangkaian langkah-langkah yang dilakukan secara sistematis dan terencana untuk memperoleh solusi terhadap permasalahan tertentu. Pada setiap pemecahan masalah diperlukan informasi yang lengkap dan akurat mengenai faktor-faktor yang mempengaruhi dan berhubungan dengan penelitian, sehingga upaya yang dilakukan dapat menghasilkan suatu bentuk pemecahan masalah yang terintegrasi.

Metodologi penelitian untuk mengidentifikasi, menganalisa dan memberikan usulan penanganan risiko menggunakan langkah-langkah sebagai berikut;

1. Identifikasi masalah dan studi pustaka
2. Tahap pengumpulan data dan informasi
3. Tahap identifikasi dan analisa risiko
4. Tahap usulan mitigasi

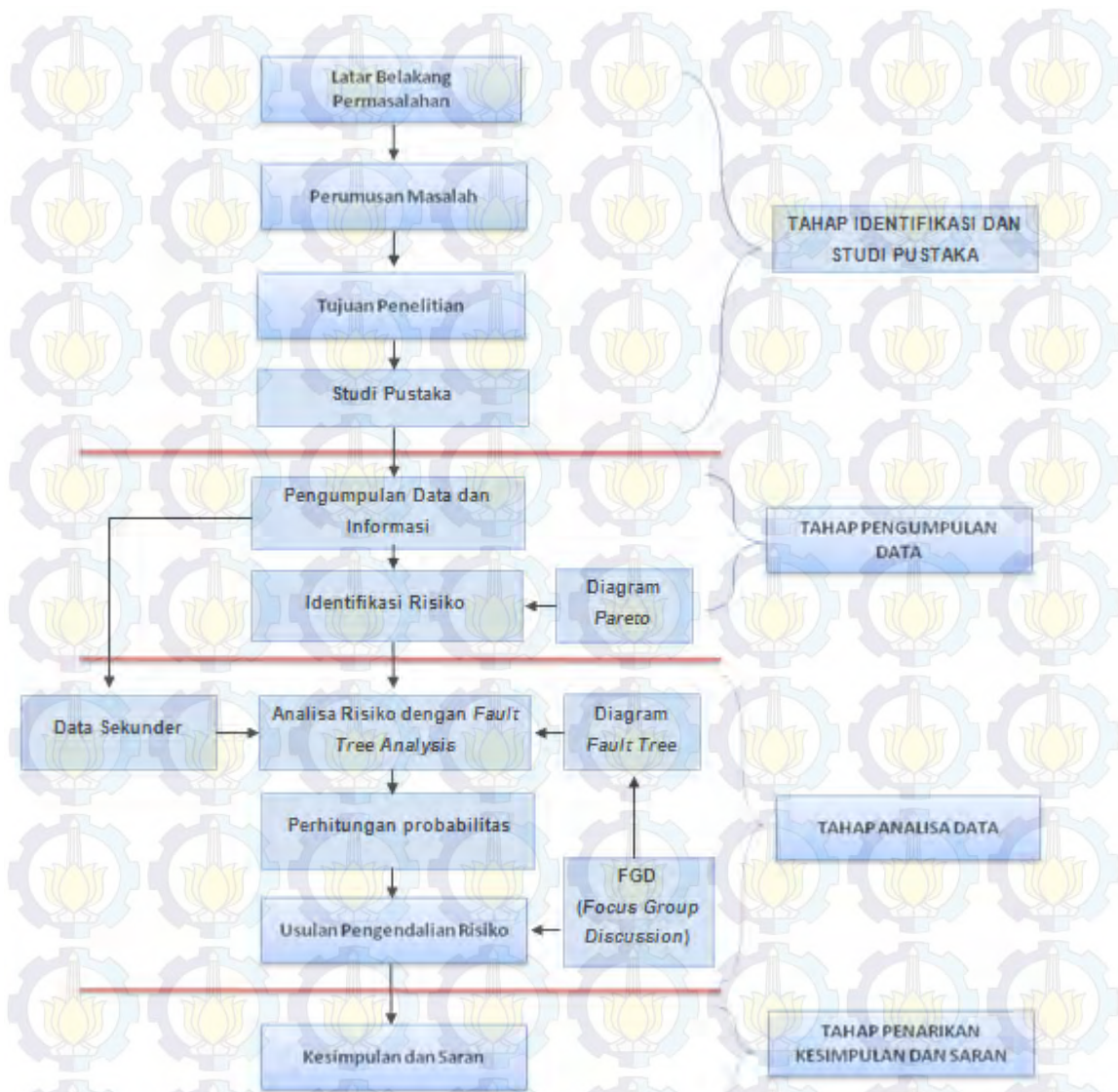
Tahapan-tahapan yang dilakukan dalam penelitian ini dapat digambarkan dalam suatu bentuk diagram alir. Diagram alir dari sistematika penelitian ini dapat ditunjukkan pada Gambar 3. 1.

#### **3.2 IDENTIFIKASI MASALAH DAN STUDI PUSTAKA**

Permasalahan utama dalam penelitian ini adalah mengenai risiko kecelakaan kendaraan bermotor dan kecelakaan yang mengakibatkan cedera di PT. X. Angka kecelakaan kendaraan bermotor dan *injury* yang masih tinggi diharapkan dapat dikurangi atau diminimalisasi.

Tahapan studi pustaka yakni dengan melakukan pengkajian jurnal, buku literatur dan penelitian terdahulu yang terkait dengan teori dan konsep penelitian yang terkait dengan manajemen risiko keselamatan kerja, analisa probabilitas dari suatu pohon kegagalan (*fault tree*) serta aplikasi dan proses pemodelan *Fault Tree Analysis*.





Gambar 3. 1 Diagram alir penelitian

### 3.3 PENGUMPULAN DATA DAN INFORMASI

Tahap pengumpulan data merupakan salah satu tahapan penting dalam penelitian ini yang akan mempengaruhi hasil dan kesimpulan penelitian. Oleh karena itu, semua data-data yang diperlukan dalam penelitian ini haruslah data yang valid dan representatif. Pengumpulan data yang baik yang diikuti dengan proses pengolahan data yang sesuai akan menghasilkan kualitas data yang baik pula.

Data pada penelitian ini diperoleh dari catatan dokumentasi departemen HES (*Health, Environment and Safety*) di PT. X, pada kurun waktu tahun 2009 hingga tahun 2011. Data tersebut merupakan catatan insiden yang terjadi di PT. X



dengan melibatkan rekan kerja (*business partner*) perusahaan kontraktor didalamnya dan juga sub-kontraktor dari rekan kerja. Perusahaan kontraktor yang terlibat diantaranya; perusahaan jasa pengeboran sumur minyak (*drilling rig, well services, well completion*, dan lain-lain), perusahaan jasa konstruksi di lapangan, perusahaan transportasi dan jasa pengangkutan, perusahaan jasa pengetesan sumur minyak, dan masih banyak perusahaan jasa lainnya.

Data yang diperoleh tersebut kemudian diklasifikasikan menjadi beberapa tipe kecelakaan sesuai penamaan yang ada di perusahaan dan menjadi penilaian (*score card*) di PT. X. Klasifikasi insiden tersebut antara lain:

1. Kecelakaan kendaraan bermotor (*Motor Vehicle Crash, MVC*)
2. Insiden karena adanya tumpahan minyak (*Oil Spill*)
3. Kecelakaan yang mengakibatkan hilangnya nyawa pekerja (*Fatality*)
4. Kecelakaan yang menyebabkan pekerja terluka/cedera (*Total Recordable Injury, TRI*)
5. Kecelakaan yang menyebabkan hilangnya hari kerja (*Days Away from Work, DAFW*)
6. Insiden kebakaran (*Fire*)

### **3.4 IDENTIFIKASI DAN ANALISA RISIKO**

Setelah dilakukan pengumpulan data dan informasi, maka langkah selanjutnya adalah proses identifikasi risiko dan analisa risiko.

#### **3.4.1 Diagram Pareto**

Proses identifikasi risiko dilakukan dengan menggunakan diagram Pareto. Dengan membuat diagram Pareto, dapat dihasilkan urutan prioritas risiko yang akan ditangani berdasarkan tingkat frekuensi kecelakaan. Hal ini dilakukan sebagai bentuk penyederhanaan permasalahan dengan mengabaikan tingkat keparahan (*severity*), dikarenakan di PT. X pencatatan insiden berdasarkan jumlah atau kuantitasnya tanpa memperhitungkan tingkat keparahan dari suatu insiden, dan hal tersebut merupakan *target/score card* yang harus dicapai untuk meminimasi jumlah kejadian/insiden sekecil mungkin, atau dengan kata lain target nol insiden.



### 3.4.2 Focus Group Discussion (FGD)

*Focus Group Discussion* (FGD) adalah suatu kelompok kecil untuk melakukan diskusi yang dipandu oleh seorang *moderator* yang ahli dan terlatih. Kelompok diskusi ini bertujuan untuk mendapatkan opini yang objektif tentang topik permasalahan tertentu kemudian bersama-sama mencari solusi dan langkah lanjutan untuk permasalahan tersebut.

Dalam penelitian ini dilakukan *Focus Group Discussion* (FGD) dengan topik diskusi mengenai sumber penyebab kecelakaan kendaraan bermotor dan kecelakaan yang mengakibatkan cedera serta usulan mitigasi untuk mengurangi kecelakaan tersebut. Kelompok *Focus Group Discussion* (FGD) tersebut terdiri dari beberapa pihak yang terkait diantaranya adalah HES (*health, environment & safety*) *engineer*, HES *analyst*, *construction engineer*, *field construction representative*, *project engineer*, *project manager*, *subject matter expert (SME)*, serta perwakilan dari mitra kerja.

### 3.4.3 Pemodelan Pohon Kegagalan (*Fault Tree*)

Setelah melakukan *Focus Group Discussion* (FGD) dan mendapatkan beberapa sumber penyebab terjadinya kecelakaan kendaraan bermotor dan kecelakaan yang mengakibatkan cedera, maka dapat dihitung nilai probabilitas dari masing-masing sumber penyebab tersebut dengan menghitung jumlah kejadian berdasarkan penyebabnya dibagi dengan jumlah kejadian total.

Kemudian melakukan *Focus Group Discussion* (FGD) untuk menentukan pemodelan pohon kegagalan (*fault tree*) dari kecelakaan kendaraan bermotor dan kecelakaan yang mengakibatkan cedera. Setelah melakukan pemodelan pohon kegagalan, maka dapat dihitung nilai probabilitas dari masing-masing *logic gate* pada pohon kegagalan dengan mengikuti persamaan *OR* ataupun *AND gate*, sebagaimana berikut:

Untuk *OR gate*:

$$P(A) = 1 - \{(1 - P(B)) \times (1 - P(C)) \times \dots \times 1 - P(Z)\} \dots \dots \dots (3.1)$$

Sedangkan untuk *AND gate*:

$$P(A) = 1 - \{(1 - P(B)) + (1 - P(C)) + \dots + 1 - P(Z)\} \dots \dots \dots (3.2)$$



### 3.5 USULAN MITIGASI/PENGENDALIAN RISIKO

Pengendalian risiko merupakan langkah penting dan menentukan dalam manajemen risiko. Risiko yang sudah diketahui berpotensi menimbulkan akibat yang besar harus dikelola dengan tepat, efektif dan efisien. Berdasarkan hasil analisa *fault tree* dan hasil perhitungan *nilai probablitas* masing-masing *logic gate*, kemudian dipilihlah nilai probabilitas yang terbesar untuk dilakukan usulan-usulan perbaikan guna mengurangi kecelakaan.







## **BAB 4**

### **HASIL PENELITIAN DAN PEMBAHASAN**

Pada bab ini akan dibahas mengenai hasil dari pengumpulan data yang telah dilakukan, kemudian dilanjutkan dengan pengolahan data dengan sistematika metodologi yang telah dibuat sebelumnya, berkaitan dengan identifikasi permasalahan yang ada di perusahaan, pengumpulan data, analisa hasil serta pelaksanaan pengendalian risiko.

#### **4.1 PENGUMPULAN DATA**

Data pada penelitian ini diperoleh dari catatan dokumentasi departemen HES (*Health, Environment and Safety*) di PT. X, pada kurun waktu tahun 2009 hingga tahun 2011.

Data tersebut merupakan catatan insiden yang terjadi di PT. X dengan melibatkan rekan kerja (*business partner*) perusahaan kontraktor didalamnya dan juga sub-kontraktor dari rekan kerja. Perusahaan kontraktor yang terlibat diantaranya; perusahaan jasa pengeboran sumur minyak (*drilling rig, well services, well completion*, dan lain-lain), perusahaan jasa konstruksi di lapangan, perusahaan transportasi dan jasa pengangkutan, perusahaan jasa pengetesan sumur minyak, dan masih banyak perusahaan jasa lainnya.

Data yang diperoleh tersebut kemudian diklasifikasikan menjadi beberapa tipe kecelakaan sesuai penamaan yang ada di perusahaan dan menjadi penilaian (*score card*) di PT. X. Klasifikasi insiden tersebut antara lain;

7. Kecelakaan kendaraan bermotor (*Motor Vehicle Crash, MVC*)
8. Insiden karena adanya tumpahan minyak (*Oil Spill*)
9. Kecelakaan yang mengakibatkan hilangnya nyawa pekerja (*Fatality*)
10. Kecelakaan yang menyebabkan pekerja terluka/cedera (*Total Recordable Injury, TRI*)
11. Kecelakaan yang menyebabkan hilangnya hari kerja (*Days Away from Work, DAFW*)
12. Insiden kebakaran (*Fire*)



Dari data insiden di PT. X kurun waktu 2009-2011 diperoleh data sebagai berikut:

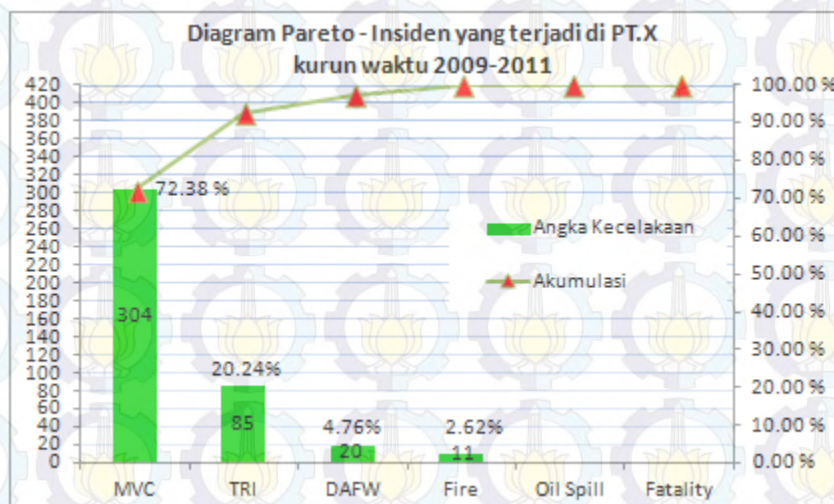
Tabel 4. 1 Data insiden di PT. X 2009-2011

Tipe Insiden	Jumlah Kejadian	Persentase
MVC	304	72.38 %
TRI	85	20.24 %
DAFW	20	4.76 %
Fire	11	2.62 %
Oil Spill	0	0.00 %
Fatality	0	0.00 %
Total	420	100%

(Sumber: Data dari PT. X)

Dengan menggunakan prinsip 80:20 dari diagram Pareto (*Pareto chart*), dimana 80% kejadian yang sering muncul dapat mewakili 20% kejadian yang lain, maka dapat ditentukan urutan prioritas dari tipe-tipe insiden yang harus ditangani terlebih dahulu. Pada diagram Pareto, sumbu vertikal yang ada di sebelah kiri adalah *frekuensi of occurrence*, yang menunjukkan angka insiden atau jumlah kejadian. Sedangkan sumbu vertikal yang terdapat pada sebelah kanan adalah persentase kumulatif dari jumlah total kejadian.

Tujuan dari pareto adalah untuk memperjelas faktor yang paling penting (atau yang paling besar) dari beberapa faktor yang ada. Dalam hal ini merepresentasikan sumber bahaya atau sumber risiko yang paling sering ditemui ataupun yang paling sering muncul.



Gambar 4. 1 Diagram Pareto insiden di PT. X kurun waktu 2009-2011



Dari data kecelakaan di PT. X yang terjadi pada tahun 2009 hingga 2011, dapat dibuat Tabel 4. 2 mengenai karakteristik kecelakaan kendaraan bermotor dan juga Tabel 4. 3 untuk karakteristik kecelakaan yang menyebabkan *injury*, sebagai berikut;

Tabel 4. 2 Karakteristik Kecelakaan Kendaraan Bermotor (MVC) di PT. X pada tahun 2009-2011

Keterangan		Jumlah	Persentase
Hari	Senin	47	15.5%
	Selasa	52	17.1%
	Rabu	41	13.5%
	Kamis	51	16.8%
	Jum'at	54	17.8%
	Sabtu	30	9.9%
	Minggu	29	9.5%
Waktu	06:00-12:00	124	40.8%
	12:00-18:00	131	43.1%
	18:00-24:00	25	8.2%
	24:00-06:00	24	7.9%
Wilayah/Area	<i>Field</i>	144	47.4%
	<i>Public Road</i>	107	35.2%
	<i>Camp</i>	30	9.9%
	<i>Parking Yard</i>	23	7.6%
Tipe Kendaraan	<i>Heavy Vehicle</i>	164	53.9%
	<i>Light Vehicle</i>	140	46.1%
Karyawan	PT. X	62	20.4%
	Mitra Kerja	242	79.6%

(Sumber: Data dari PT. X)

Dari data di atas dapat disimpulkan bahwa kecelakaan kendaraan bermotor paling sering terjadi di hari Jum'at dengan persentase sekitar 17.8%, pada jam 06:00-12:00 (pagi hari hingga menjelang siang). Kecelakaan kendaraan bermotor tersebut sering terjadi di wilayah/area lapangan (*field*) maupun di jalan umum (*public road*) yang melibatkan pengguna jalan lain (non pekerja). Sedangkan jenis kendaraan yang sering mengalami kecelakaan adalah jenis *heavy vehicle*, yang melibatkan banyak mitra kerja di PT. X. *Heavy vehicle* adalah semua kendaraan



bermotor yang mempunyai berat kosong lebih dari 4.000 kg ataupun berat kotor diatas 7.500 kg, yang mana secara khusus didesain untuk melakukan pekerjaan berat, ataupun kendaraan bermotor yang digunakan untuk mengangkut penumpang 9 orang atau lebih. Beberapa contoh *heavy vehicle* diantaranya: bus, *crane*, *foco truck*, *dump truck*, *trailer*, dan lain-lain. Sedangkan *light vehicle* adalah semua kendaraan bermotor yang mempunyai berat kosong kurang dari 4.000 kg ataupun berat kotor dibawah 7.500 kg, ataupun kendaraan bermotor yang digunakan untuk mengangkut penumpang dengan jumlah maximum 8 orang.

Tabel 4. 3 Karakteristik Kecelakaan yang Menyebabkan *Injury* di PT. X pada tahun 2009-2011

Keterangan		Jumlah	Persentase
Hari	Senin	27	25.7%
	Selasa	13	12.4%
	Rabu	9	8.6%
	Kamis	16	15.2%
	Jum'at	13	12.4%
	Sabtu	15	14.3%
	Minggu	12	11.4%
Waktu	06:00-12:00	35	33.3%
	12:00-18:00	34	32.4%
	18:00-24:00	25	23.8%
	24:00-06:00	11	10.5%
Wilayah/Area	<i>Industrial Area</i>	57	54.3%
	<i>Rig</i>	40	38.1%
	<i>Road</i>	8	7.6%
Karyawan	PT. X	19	18.1%
	Mitra Kerja	86	81.9%
Anggota Tubuh yang Cedera	Bagian Kepala	21	20.0%
	Bagian Badan	23	21.9%
	Bagian Tangan dan Kaki	59	56.2%

(Sumber: Data dari PT. X)

Dari data di atas dapat disimpulkan bahwa kecelakaan kerja yang menyebabkan *injury* paling sering terjadi di hari Senin dengan persentase sekitar 25.7%, pada jam 06:00-12:00 (pagi hari hingga menjelang siang). Kecelakaan kerja yang



menyebabkan *injury* tersebut sering terjadi di wilayah/area industri maupun di Rig, yakni tempat untuk melakukan aktifitas *drilling well* (pengeboran sumur) dan *well work* (pekerjaan sumur). Kecelakaan kerja yang menyebabkan *injury* tersebut banyak melibatkan mitra kerja PT. X. Sedangkan bagian/anggota tubuh yang sering mengalami cedera/*injury* adalah bagian tangan dan kaki.

## 4.2 ANALISA RISIKO DENGAN METODE *FAULT TREE*

### 4.2.1 Kecelakaan Kendaraan Bermotor (MVC)

Data yang diperoleh dari departemen *Health, Environment and Safety* (HES) PT. X maupun mitra kerja untuk kecelakaan kendaraan bermotor pada tahun 2009-2011, ada beberapa faktor yang menjadi penyebab dasar, disajikan dalam Tabel 4. 4. Data tersebut merupakan hasil diskusi yang dilakukan bersama-sama dalam suatu *Focus Group Discussion* (FGD) dengan beberapa pihak yang terkait diantaranya adalah HES (*health, environment & safety*) engineer, HES analyst, construction engineer, field construction representative, project engineer, project manager, subject matter expert (SME), serta perwakilan dari mitra kerja.

Tabel 4. 4 Penyebab Dasar Kecelakaan Kendaraan Bermotor di PT. X (2009-2011)

Penyebab Dasar Kecelakaan MVC	Jumlah
Tindakan tidak aman dari pengemudi lain	108
Jarak aman tidak terpenuhi	45
Kecepatan yang tidak semestinya	33
Mundur yang tidak benar	29
Kurang mengaktifkan mata	26
Pengemudi yang kurang terlatih	25
Menyalip yang tidak benar	10
<i>Blind Spot</i>	9
Mengantuk	6
Parkir yang tidak benar	5
Kondisi lingkungan yang tidak aman	5
Gangguan sewaktu mengemudi	2
Tidak ada <i>pre trip inspection</i>	1
Total untuk kejadian MVC	304
Total insiden yang terjadi (2009-2011)	420



Perhitungan nilai probabilitas dapat diperoleh dengan membagi jumlah kejadian berdasarkan penyebab terjadinya dengan jumlah total kejadian selama kurun waktu 2009-2011 yakni 420, seperti tertera pada Tabel 4. 1. Dengan demikian dapat dihitung nilai probabilitas terjadinya kecelakaan kendaraan bermotor di PT. X pada tahun 2009-2011 sebagaimana disajikan pada Tabel 4. 5.

Tabel 4. 5 Nilai Probabilitas Terjadinya Kecelakaan Kendaraan Bermotor di PT. X (2009-2011)

Penyebab Dasar Kecelakaan	Nilai Probabilitas
Tindakan tidak aman dari pengemudi lain	0.2571
Jarak aman tidak terpenuhi	0.1071
Kecepatan yang tidak semestinya	0.0786
Mundur yang tidak benar	0.0690
Kurang mengaktifkan mata	0.0619
Pengemudi yang kurang terlatih	0.0595
Menyalip yang tidak benar	0.0238
Mengantuk	0.0143
Parkir yang tidak benar	0.0119
<i>Blind Spot</i>	0.0214
Kondisi lingkungan yang tidak aman	0.0119
Gangguan sewaktu mengemudi	0.0048
Tidak ada <i>pre trip inspection</i>	0.0024

Dengan menggunakan metode FTA (*Fault Tree Analysis*) bisa dicari nilai probabilitas dari suatu kejadian/insiden. Dengan menggunakan prinsip aljabar Boolean;

Untuk *OR gate*:

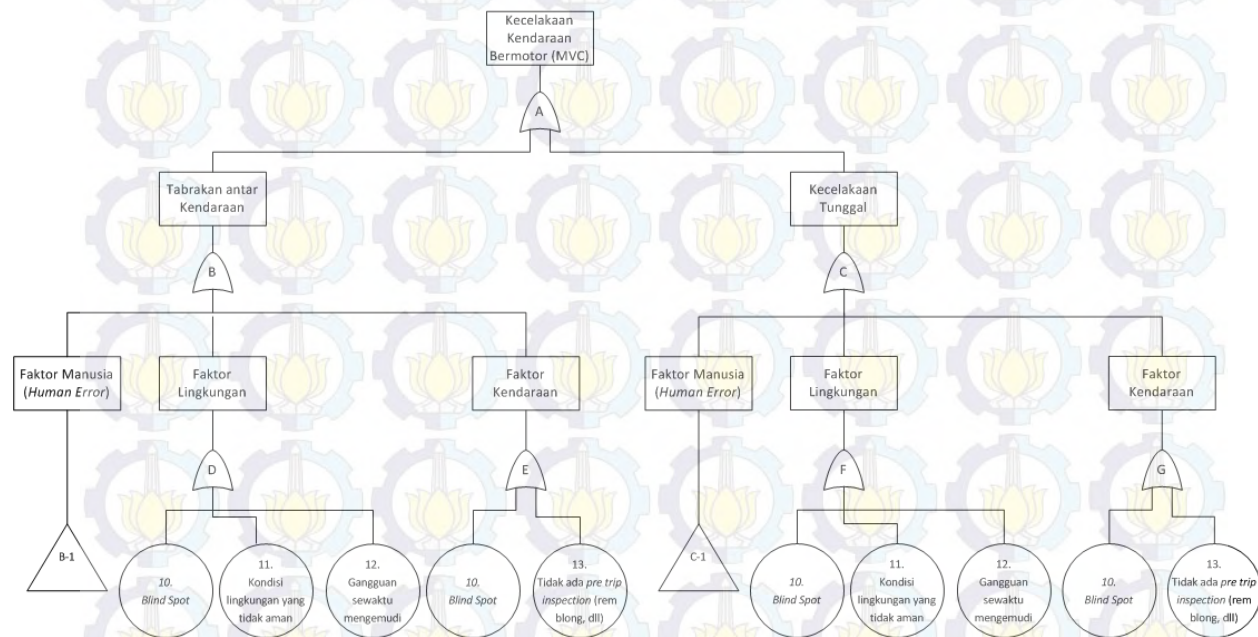
$$P(A) = 1 - \{(1 - P(B)) \times (1 - P(C)) \times \dots \times 1 - P(Z)\} \dots\dots\dots (4. 1)$$

Sedangkan untuk *AND gate*:

$$P(A) = 1 - \{(1 - P(B)) + (1 - P(C)) + \dots + 1 - P(Z)\} \dots\dots\dots (4. 2)$$

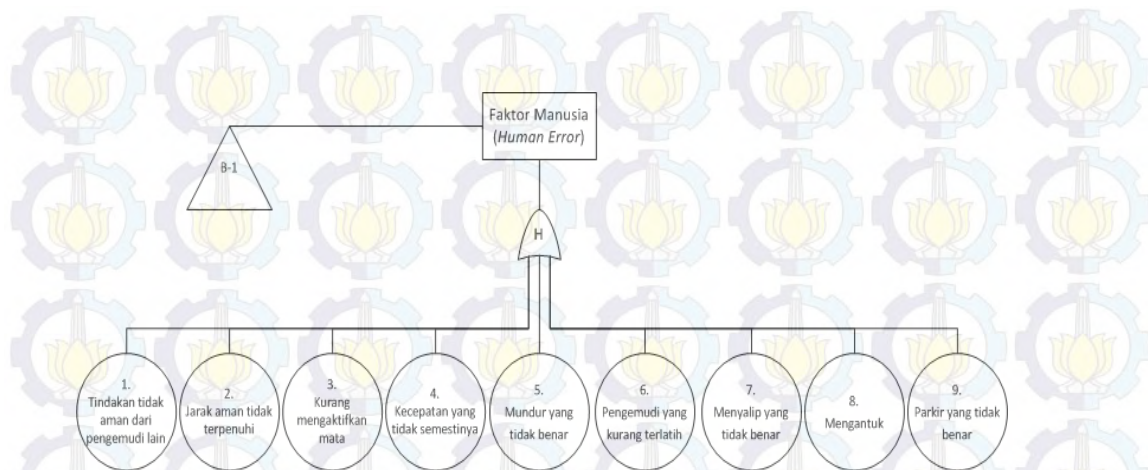
Proses pembuatan diagram *fault tree* juga dilakukan secara bersama dengan pihak-pihak yang terkait dalam *Focus Group Discussion* (FGD) seperti yang dilakukan pada saat penentuan faktor-faktor penyebab terjadinya kecelakaan.



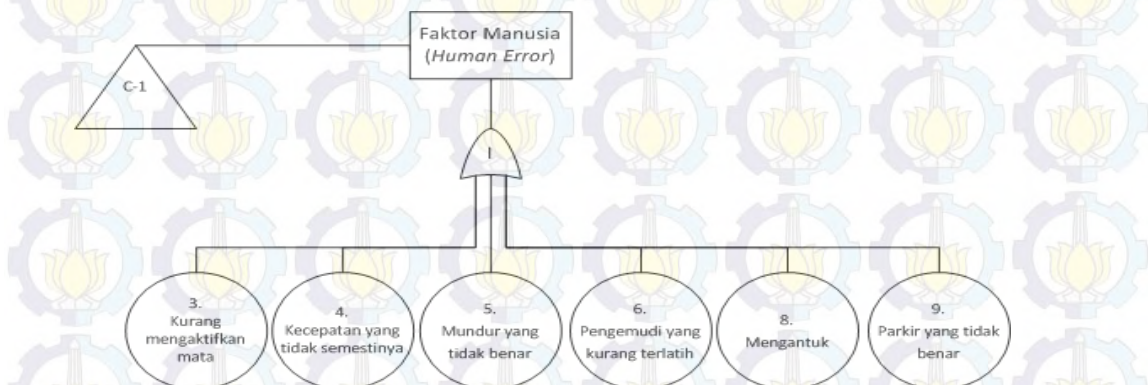


Gambar 4. 2 Fault Tree Analysis untuk Top Event MVC (Motor Vehicle Crash)





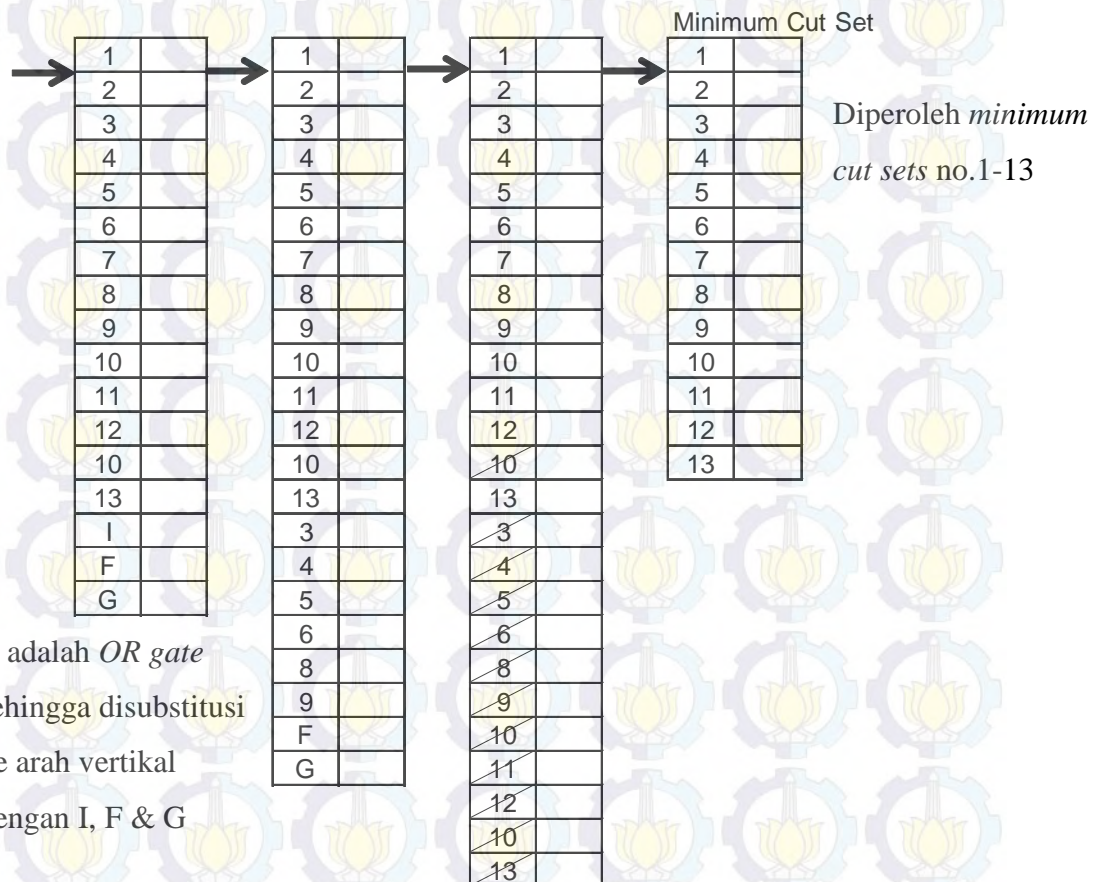
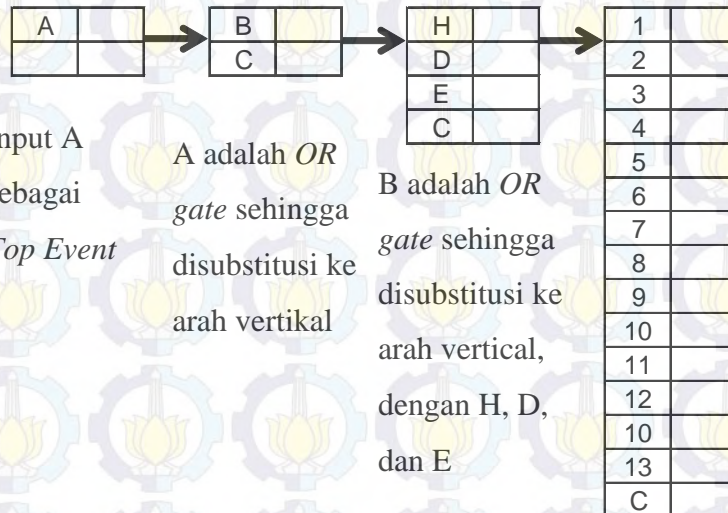
Gambar 4. 3 FTA *Intermediate Event* Faktor Manusia pada Tabrakan antar Kendaraan



Gambar 4. 4 FTA *Intermediate Event* Faktor Manusia pada Kecelakaan Tunggal



Dari diagram *fault tree* pada Gambar 4. 2, Gambar 4. 3 dan Gambar 4. 4 maka dapat dicari *minimum cut sets* terjadinya kecelakaan kendaraan bermotor, sebagai berikut;





$$G(H) = E(1) + E(2) + E(3) + E(4) + E(5) + E(6) + E(7) + E(8) + E(9) \dots\dots\dots (4.3)$$

$$P(H) = 1 - \{(1-P(1)) \times (1-P(2)) \times (1-P(3)) \times (1-P(4)) \times (1-P(5)) \times (1-P(6)) \times (1-P(7)) \times (1-P(8)) \times (1-P(9))\} \dots\dots\dots (4.4)$$

Dengan menggunakan persamaan (4.1) ataupun (4.4) dan data nilai probabilitas *basic event* pada Tabel 4. 5 maka dapat dihitung nilai probabilitas masing – masing *logic gate*, seperti contoh perhitungan berikut:

$$P(H) = 1 - \{(1-P(1)) \times (1-P(2)) \times (1-P(3)) \times (1-P(4)) \times (1-P(5)) \times (1-P(6)) \times (1-P(7)) \times (1-P(8)) \times (1-P(9))\}$$

$$P(H) = 1 - \{(1-0.2571) \times (1-0.1071) \times (1-0.0786) \times (1-0.0690) \times (1-0.0619) \times (1-0.0595) \times (1-0.0238) \times (1-0.0143) \times (1-0.0119)\}$$

$$P(H) = 0,5227$$

Dengan cara yang sama seperti di atas, dapat diperoleh nilai probabilitas masing-masing *logic gate* dari hasil perhitungan sebagai berikut:

Tabel 4. 6 Probabilitas *Logic Gate* dari FTA MVC

Gate (X)	P(X)
A	0,6933
B	0,5516
C	0,3159
D	0,0377
E	0,0238
F	0,0377
G	0,0238
H	0,5227
I	0,2718



#### 4.2.2 Kecelakaan Kerja yang Mengakibatkan Cedera (*Injury*)

Data yang diperoleh dari departemen *Health, Environment and Safety* (HES) PT. X maupun mitra kerja untuk kecelakaan kerja yang mengakibatkan cedera (*injury*) pada tahun 2009-2011, ada beberapa faktor yang menjadi penyebab dasar, disajikan dalam Tabel 4. 7. Data tersebut merupakan hasil diskusi yang dilakukan bersama-sama dalam suatu *Focus Group Discussion* (FGD) dengan beberapa pihak yang terkait diantaranya adalah HES (*health, environment & safety*) *engineer*, HES *analyst*, *construction engineer*, *field construction representative*, *project engineer*, *project manager*, *subject matter expert (SME)*, serta perwakilan dari mitra kerja baik pimpinan kerja maupun dari tim HES-nya.

Tabel 4. 7 Penyebab Dasar Kecelakaan Kerja yang Mengakibatkan Cedera (*Injury*) di PT. X (2009-2011)

Penyebab Dasar Kecelakaan	Jumlah
Gagal mengidentifikasi bahaya sekitar	32
Melakukan tindakan yang tidak aman	20
Informasi yang kurang tentang suatu benda	17
Kurangnya komunikasi antar pekerja	9
Melanggar SOP/SOP tidak benar	8
Peralatan yang tidak <i>standard</i> /tidak cukup	7
Kurangnya <i>skill</i> dan <i>knowledge</i>	5
Kurangnya isolasi energi berbahaya	4
Tidak menggunakan alat pelindung diri	3
Total kejadian yang menyebabkan <i>injury</i>	105
Total insiden yang terjadi (2009-2011)	420

Dengan menggunakan persentase probabilitas terjadinya kecelakaan kerja yang mengakibatkan cedera (*injury*) pada Tabel 4. 1 yakni dengan melakukan penjumlahan nilai TRI dan DAFW diperoleh nilai probabilitas terjadinya cedera (*injury*) sebesar 25.00%. Dengan melakukan pembagian antara penyebab dasar kecelakaan yang mengakibatkan *injury* dengan jumlah total kejadian sebanyak 420, maka dapat diperoleh nilai probabilitas masing-masing penyebab *injury*. Nilai probabilitas penyebab terjadinya kecelakaan kerja yang mengakibatkan cedera (*injury*) di PT. X pada tahun 2009-2011 dapat disajikan pada Tabel 4. 8 sebagai berikut:

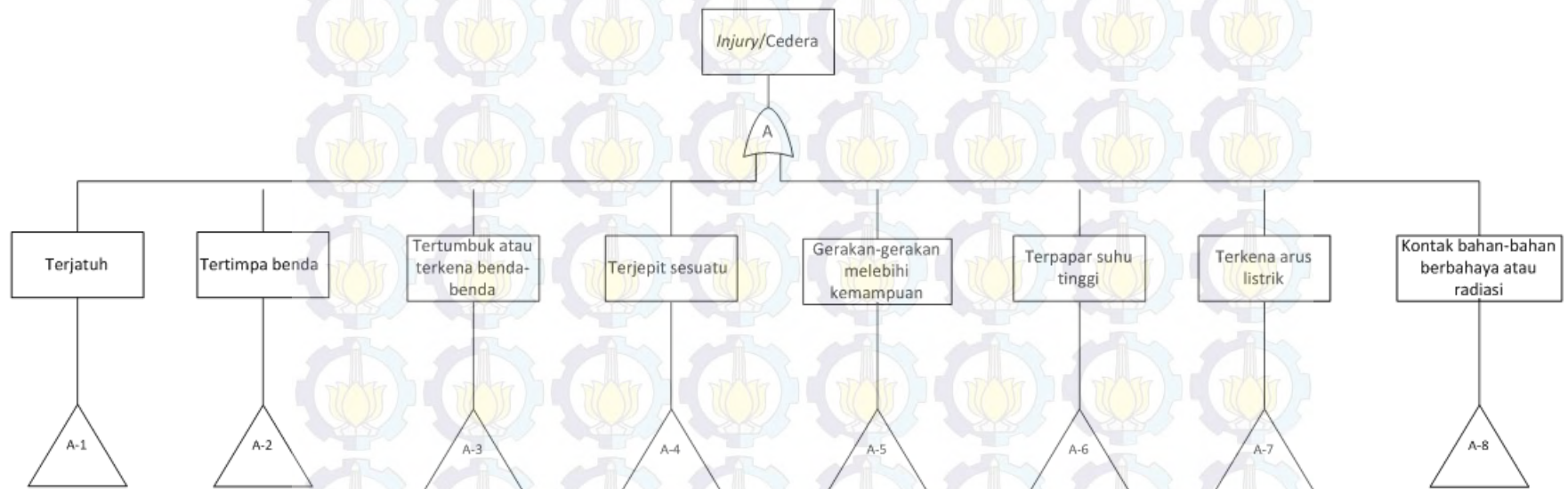


Tabel 4. 8 Nilai Probabilitas Terjadinya Kecelakaan Kerja yang Mengakibatkan *Injury* di PT. X (2009-2011)

Penyebab Dasar Kecelakaan	Nilai Probabilitas
Gagal mengidentifikasi bahaya sekitar	0,0762
Melakukan tindakan yang tidak aman	0,0476
Informasi yang kurang tentang suatu benda	0,0405
Kurangnya komunikasi antar pekerja	0,0214
Melanggar SOP/SOP tidak benar	0,0190
Peralatan yang tidak <i>standard</i> /tidak cukup	0,0167
Kurangnya <i>skill</i> dan <i>knowledge</i>	0,0119
Kurangnya isolasi energi berbahaya	0,0095
Tidak menggunakan alat pelindung diri	0,0071

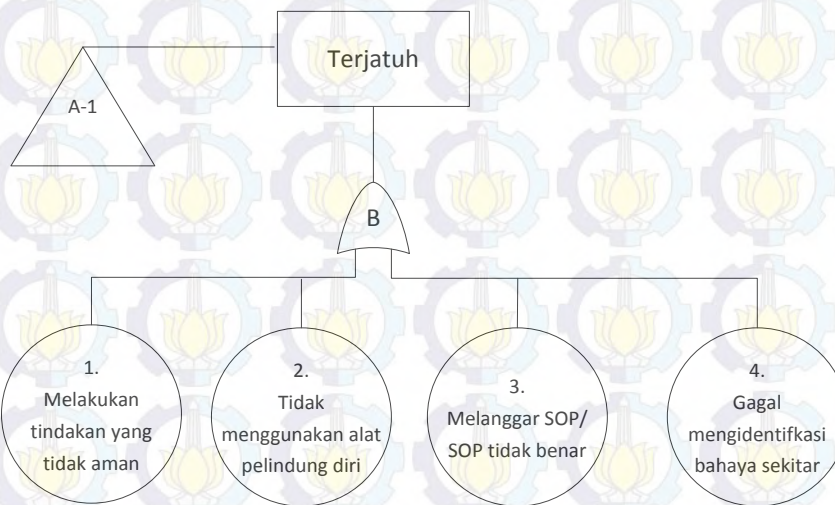
Pembuatan diagram *fault tree* juga dilakukan secara bersama dalam suatu *Focus Group Discussion* (FGD) dengan beberapa pihak yang terkait mengenai masalah keselamatan kerja diantaranya adalah HES (*health, environment & safety*) *engineer*, HES *analyst*, *construction engineer*, *field construction representative*, *project engineer*, *project manager*, *subject matter expert (SME)*, serta perwakilan dari mitra kerja baik pimpinan kerja maupun dari tim HES-nya, seperti pada saat menentukan factor-faktor penyebab terjadinya kecelakaan.



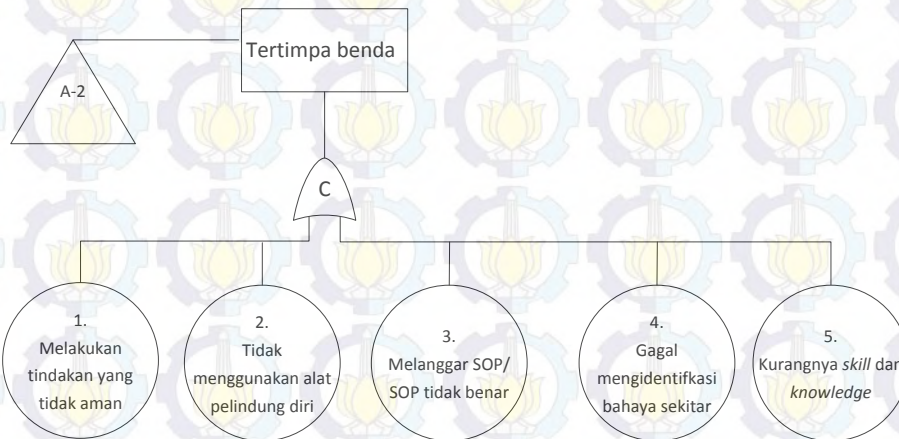


Gambar 4. 5 FTA untuk *Top Event* Kecelakaan Kerja yang Mengakibatkan Cedera

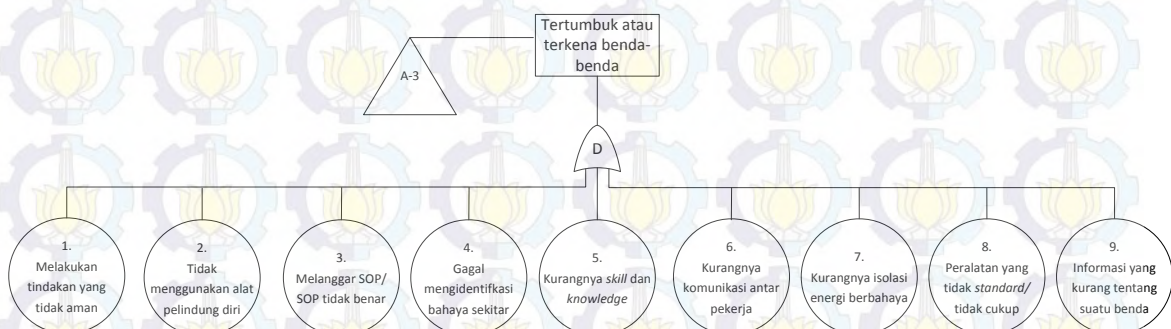




Gambar 4. 6 FTA untuk *Intermediate Event* Terjatuh

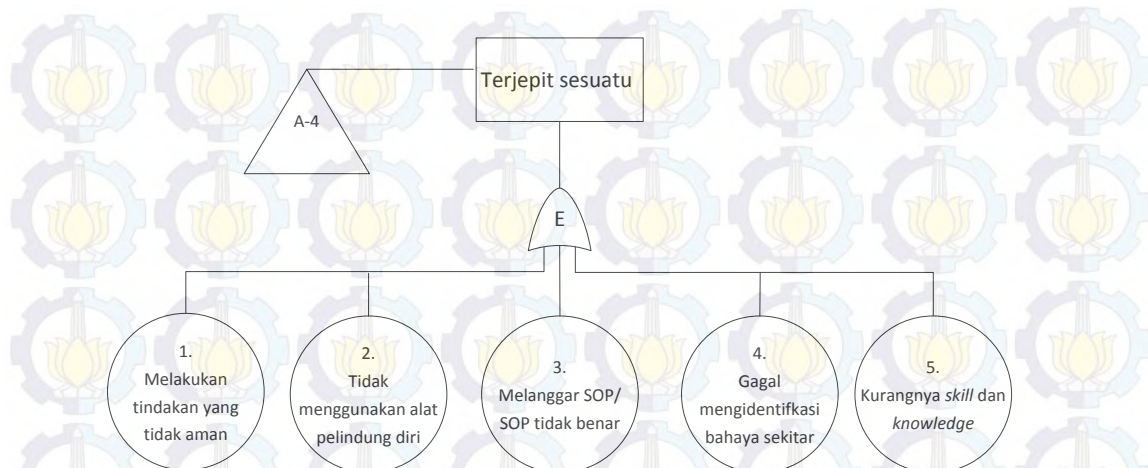


Gambar 4. 7 FTA untuk *Intermediate Event* Tertimpa Benda



Gambar 4. 8 FTA untuk *Intermediate Event* Tertumbuk Benda

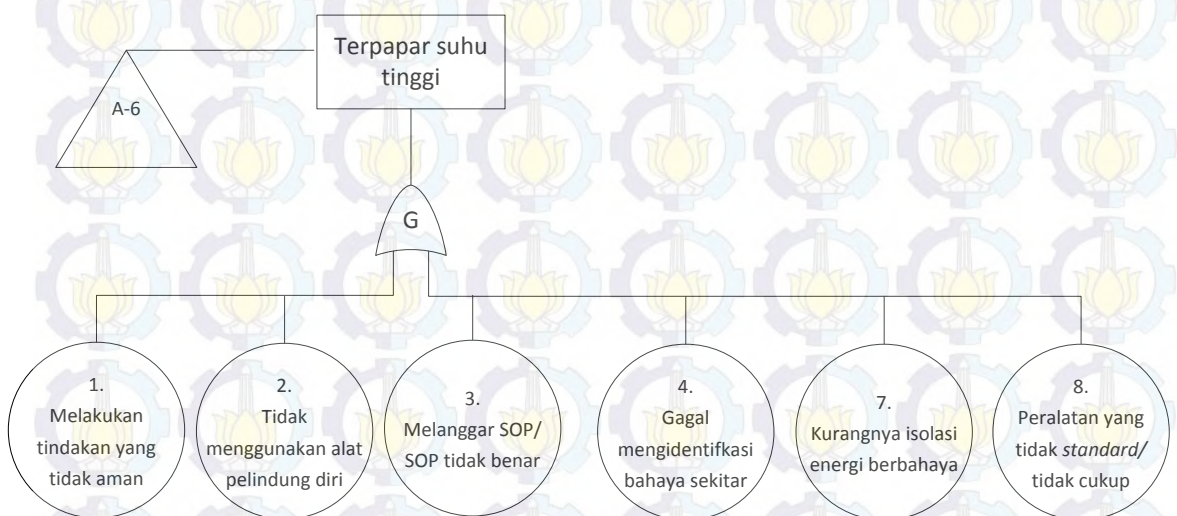




Gambar 4. 9 FTA untuk *Intermediate Event* Terjepit Sesuatu

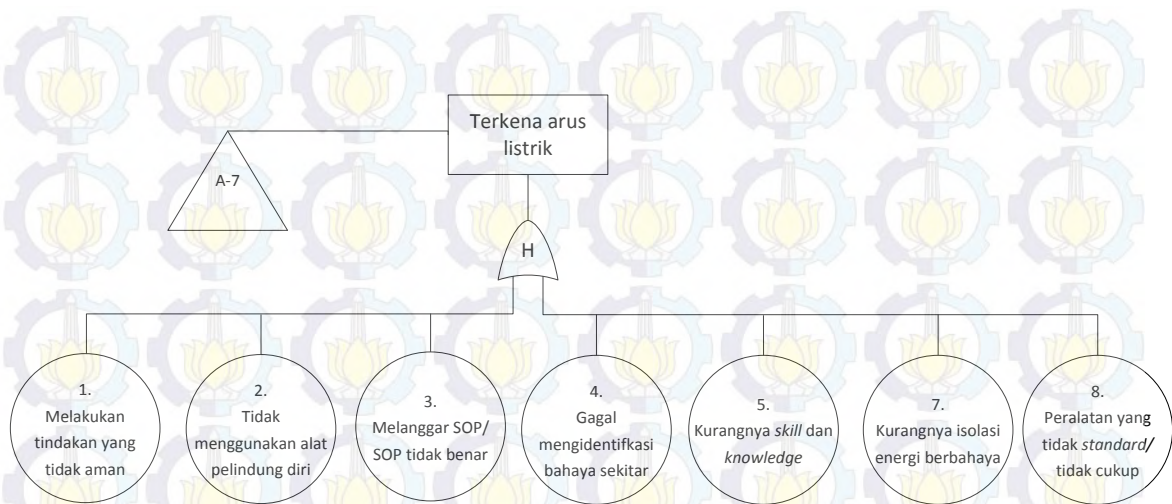


Gambar 4. 10 FTA untuk *Intermediate Event* Gerakan yang Melebihi Kemampuan

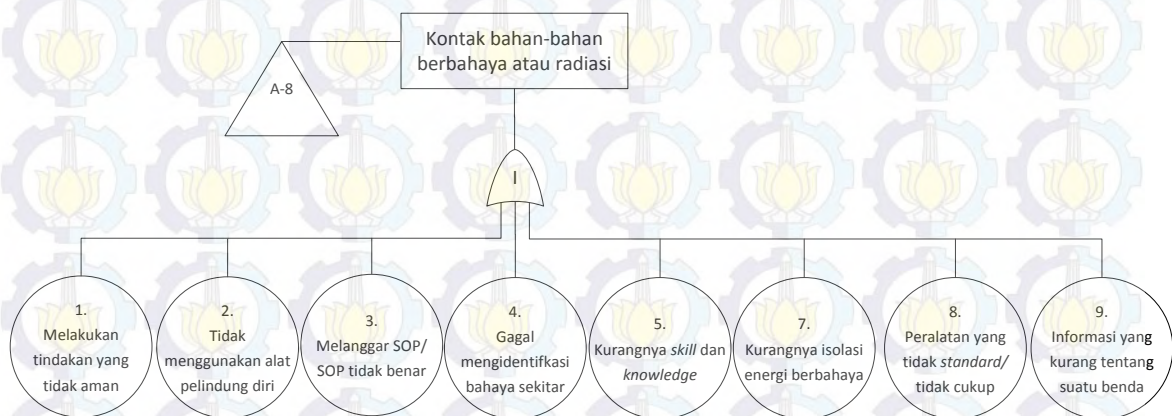


Gambar 4. 11 FTA untuk *Intermediate Event* Terpapar Suhu Tinggi





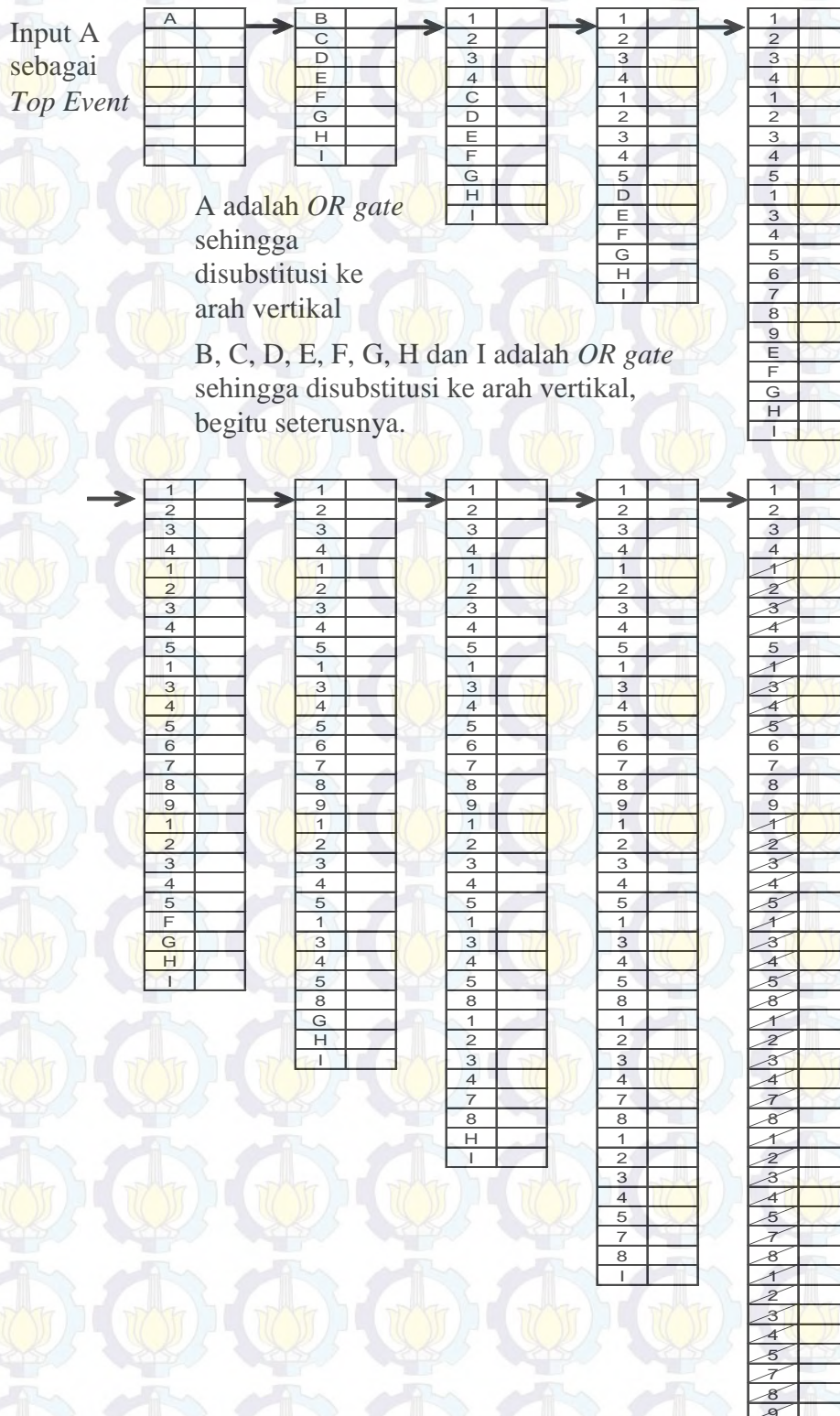
Gambar 4. 12 FTA untuk *Intermediate Event* Terkena Arus Listrik



Gambar 4. 13 FTA untuk *Intermediate Event* Kontak dengan Bahan Berbahaya



Dari diagram *fault tree* pada Gambar 4. 5 maka dapat dicari nilai *minimum cut sets* terjadinya kecelakaan kerja yang mengakibatkan cedera, sebagai berikut:





Dengan menggunakan persamaan (4.1) ataupun (4.4) dan data nilai probabilitas *basic event* pada Tabel 4. 8 maka dapat dihitung nilai probabilitas masing – masing *logic gate*, seperti contoh perhitungan berikut:

$$P(B) = 1 - \{(1-P(1)) \times (1-P(2)) \times (1-P(3)) \times (1-P(4))\}$$

$$P(B) = 1 - \{(1-0,0476) \times (1-0,0071) \times (1-0,0190) \times (1-0,0762)\}$$

$$P(B) = 0,1739$$

Dengan cara yang sama seperti di atas, dapat diperoleh nilai probabilitas masing-masing *logic gate* dari hasil perhitungan sebagai berikut:

Tabel 4. 9 Data Perhitungan Probabilitas Penyebab Dasar Kecelakaan Kerja yang Mengakibatkan Cedera

Gate (X)	P(X)
A	0,8123
B	0,1739
C	0,1896
D	0,1870
E	0,1896
F	0,1572
G	0,1915
H	0,2069
I	0,2126



### 4.3 TINDAKAN PENANGANAN RISIKO

Banyak faktor yang dapat menyebabkan kecelakaan kerja, baik faktor yang merupakan unsur tersendiri ataupun faktor yang menjadi unsur penyebab bersama-sama. Penyebab kecelakaan kerja diantaranya:

#### 1. Penyebab Langsung (*Immediate causes*)

Penyebab langsung kecelakaan adalah suatu keadaan yang biasanya bisa dilihat dan dirasakan langsung, dapat dibagi menjadi dua kelompok, yakni;

- a. Tindakan-tindakan tidak aman (*unsafe acts*) yaitu perbuatan berbahaya dari manusia yang dapat menyebabkan kecelakaan, dapat dilatar belakangi antara lain:
  - i. Cacat tubuh yang tidak kentara (*bodilly defect*)
  - ii. Keletihan dan kelesuan (*fatigue and boredom*)
  - iii. Sikap dan tingkah laku yang tidak aman
  - iv. Pengetahuan yang tidak mencukupi
- b. Kondisi yang tidak aman (*unsafe condition*) yaitu keadaan yang akan menyebabkan kecelakaan, terdiri dari: mesin, peralatan, bahan, lingkungan, proses pekerjaan, sifat pekerjaan dan cara kerja.

#### 2. Penyebab Dasar (*basic causes*).

Penyebab dasar terdiri dari 2 faktor yaitu;

- a. Faktor manusia/personal (*personnel factor*)
  - i. Kurang kemampuan fisik, mental dan psikologi
  - ii. Kurangnya /lemahnya pengetahuan dan skill.
  - iii. Stres.
  - iv. Motivasi yang tidak cukup/salah
- b. Faktor kerja/lingkungan kerja (*job work environment factor*)
  - i. Factor fisik yaitu, kebisingan, radiasi, penerangan, iklim dan lain-lain.
  - ii. Factor kimia yaitu debu, uap logam, asap, gas dst
  - iii. Factor biologi yaitu bakteri, virus, parasit, serangga.
  - iv. Ergonomi dan psikososial.

(Isfaniy, 2010)



#### 4.3.1 Mengurangi MVC (*Motor Vehicle Crash*)

Risiko-risiko yang timbul disebabkan oleh adanya faktor-faktor risiko, dengan mengetahui faktor risiko kecelakaan, maka risiko tersebut dapat diidentifikasi dan dihindari sebagai upaya pencegahan. Beberapa faktor risiko yang selama ini dapat diidentifikasi adalah faktor manusia, faktor kendaraan, faktor jalanan dan faktor lingkungan.

Pertama adalah faktor manusia adalah faktor paling dominan dalam kecelakaan kendaraan bermotor, seperti pengemudi. Faktor pengemudi memberi kontribusi sekitar 75 persen hingga 80 persen terhadap kecelakaan kendaraan bermotor yang biasanya diawali oleh pelanggaran rambu-rambu jalan, karena kurangnya ketaatan. Selain itu terkait dengan ketrampilan mengemudi, situasi mengantuk saat mengemudi, gangguan kesehatan saat mengemudi, kelelahan saat mengemudi. Faktor lainnya terkait dengan usia pengemudi seperti dibawah 50 tahun atau diatas 50 tahun.

Kedua adalah faktor kendaraan memiliki andil terhadap terjadinya kecelakaan kendaraan bermotor seperti pecah ban, rem tidak berfungsi, peralatan kendaraan yang sudah aus karena lama pemakaian dan penyebab lainnya yang berhubungan dengan teknologi kendaraan. Kendaraan yang dirawat dengan rutin serta pengujian kendaraan bermotor secara reguler dapat menghindari terjadinya kendaraan yang disebabkan oleh faktor kendaraan.

Beberapa jenis kendaraan di lapangan minyak diantaranya ada *light vehicle* seperti mobil, alat berat (*heavy equipment*) seperti bus, truk, *escavator*, *back hoe*, *compactor*, *crane*, dan lain-lain.

Ketiga adalah faktor lingkungan termasuk di dalamnya kondisi jalan. Jalan turut menjadi faktor terjadinya kecelakaan, baik dari segi geometrik jalan, ketiadaan pagar pengaman pada jalan berkelok dan jalan berbukit, ketiadaan rambu jalan, ketiadaan median jalan, jalan berlobang/rusak, maupun dari kondisi permukaan jalan secara umum. Faktor lingkungan yang lain misalnya asap, kabut, hujan adalah beberapa diantaranya yang dapat mengakibatkan terjadinya kecelakaan kendaraan bermotor. Itulah yang disebut faktor lingkungan yang berkaitan dengan cuaca. Ketika hujan atau kabut atau asap, maka jarak pandang menjadi terbatas dan jalan menjadi licin. Pada kondisi ini, jarak pengereman



diatur sejauh mungkin dan menghindari pengereman mendadak. Kabut dan asap lebih sering terjadi terutama di daerah yang sering ada pembakaran hutan, sedangkan cuaca hujan dapat terjadi dimana saja. (Isfaniy, 2010)

Dari data hasil analisa dapat diketahui bahwa penyebab dasar utama kecelakaan kendaraan bermotor adalah perilaku yang tidak aman dari pengemudi lain. Hal ini merupakan aspek diluar kontrol, namun karyawan diharapkan selalu mengemudi dengan selamat dengan mematuhi budaya berkendara yang selamat dan menerapkan *defensive driving*.

Untuk mencegah terjadinya kecelakaan kendaraan bermotor beberapa tindakan yang diperlukan untuk mengurangi risiko tersebut sudah diterapkan di PT. X dan perusahaan kontraktor antara lain;

1) Aspek Pengemudi

- a. Menghimbau setiap pegawai untuk mengikuti budaya *safety riding/defensive driving*.
- b. Menjalankan *smith systems* (pandang luas/pandang jauh, aktifkan mata, siapkan ruang menghindar, pastikan lawan melihat, jaga jarak) sewaktu mengemudi.
- c. Menggunakan seat belt (sabuk pengaman) ketika menggunakan mobil.
- d. Memelihara jalur dan jarak aman pada saat berkendara.
- e. Mengendalikan emosi saat berkendara.
- f. Memastikan fisik dalam keadaan sehat sehingga tidak lelah dan mengantuk ketika berkendara.
- g. Mengemudikan kendaraannya sesuai kecepatan yang diatur.
- h. Mematuhi traffic signal (rambu jalanan)

2) Aspek Penumpang

- a. Memeriksa jumlah muatan (baik penumpangnya maupun barangnya) sehingga tidak berlebihan atau melebihi kapasitas angkut normal kendaraan.
- b. Tidak melakukan tindakan yang secara psikologis dapat mengganggu pengemudi.



### 3) Aspek Kendaraan

- a. Memeriksa kelayakan atau kelayakan jalan dari setiap kendaraan sebelum menggunakannya (*pre-trip inspection*), seperti kondisi ban, rem, lampu-lampu, mesin, surat-surat, dongkrak, P3K, dan lain-lain.
- b. Memilih jenis kendaraan sesuai dengan keperluan, situasi dan kondisi serta peraturan yang ada demi kelancaran tugas.

### 4) Aspek Jalanan

- Memperhatikan keadaan fisik jalanan berupa:
  - i. Struktur; apakah jalan tersebut datar/mendaki/menurun; lurus/berkelok-kelok.
  - ii. Kondisi; apakah jalan tersebut dalam keadaan baik/berlubang-lubang.
  - iii. Status; apakah jalan tersebut merupakan kategori jalan umum atau jalan di lapangan minyak.
- Memperhatikan lebar jalan.

### 5) Aspek Lingkungan: cuaca, geografis

Memperhatikan kondisi cuaca dan geografis suatu wilayah, sehingga apabila terjadi kabut, hujan, jalan licin, dapat diantisipasi dengan peralatan yang telah disiapkan. Jika dirasa tidak aman, maka dilakukan tindakan SWA (*stop work authority*).

Menurut Sukarto (1992), dalam penelitiannya mengenai kecelakaan lalu lintas di jalan tol, faktor pengemudi merupakan faktor penyebab kecelakaan yang paling besar pengaruhnya, sedangkan faktor lingkungan tidak terlalu besar peranannya sebagai penyebab terjadinya kecelakaan. Di samping itu pemahaman para pengemudi terhadap ketentuan dan persyaratan mengemudi di jalan dianggap kurang.

Berdasarkan hasil analisa *fault tree* pada Gambar 4. 2 dan hasil perhitungan *nilai probabilitas* masing-masing *logic gate* pada Tabel 4. 6, dapat terlihat bahwa *logic gate* H untuk *intermediate event* faktor manusia pada kecelakaan tabrakan antar kendaraan mempunyai nilai terbesar yakni 0,5227. Untuk itu, usulan-usulan perbaikan untuk mengurangi kecelakaan kendaraan bermotor lebih difokuskan untuk mengurangi *human error*. Berdasarkan hasil analisa, faktor penyebab kecelakaan kendaraan bermotor yang terbesar adalah



tindakan/perilaku tidak aman dari pengemudi lain. Hal ini sulit untuk dikendalikan, karena terkait dengan pihak luar. Faktor terbesar lainnya yang masih termasuk dalam kategori faktor manusia adalah tidak mampu menjaga jarak aman, kecepatan yang tidak semestinya, bergerak mundur dengan tidak benar, kurang mengaktifkan mata, pengemudi yang kurang terlatih serta *blindspot*.

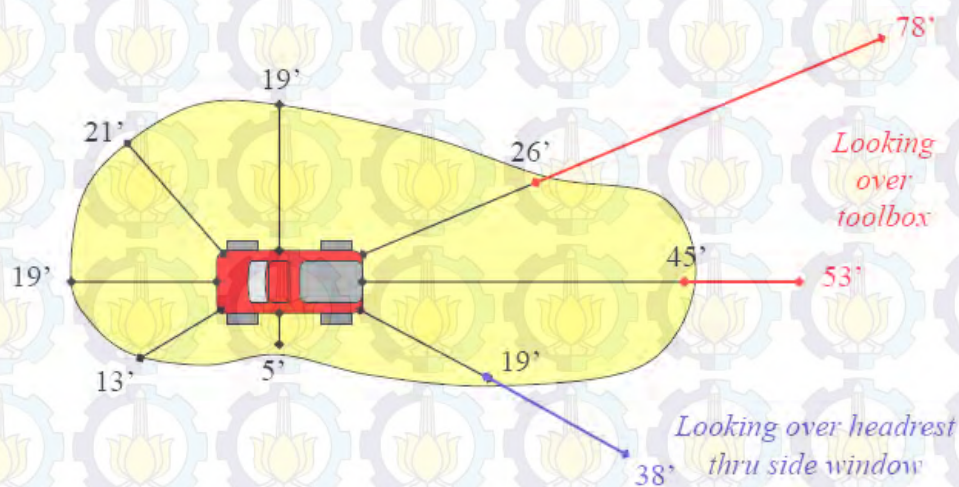
Untuk mengurangi nilai probabilitas dari faktor-faktor penyebab kecelakaan terbesar tersebut, maka setelah dilakukan diskusi dengan pimpinan, ahli serta pihak terkait (departemen HES (*health, environment and safety*)) berikut usulan-usulan untuk mengurangi risiko MVC:

1. Menjaga jarak aman; untuk *heavy vehicle* digunakan *escort*/mobil pengiring untuk menjaga jarak aman kendaraan. Untuk menjaga jarak aman, perilaku pengemudi yang *defensive* serta selalu menerapkan *smith system* (jaga jarak, pandang luas, pandang jauh, aktifkan mata, pastikan lawan melihat anda serta siapkan gerak menghindar) yang harus selalu dijaga, untuk itu perlu dilakukan *refreshment training* dan juga *commentary driving* secara berkala. Sebenarnya sudah ada teknologi yang bisa memberikan informasi dan peringatan jarak aman antar kendaraan di segala sisi kendaraan, namun teknologi tersebut belum cukup ekonomis dan terjangkau, sehingga opsi mitigasi dengan memasang alat/teknologi tersebut tidak disetujui. Pemasangan *sensor parking* juga membantu memberikan informasi jarak aman pada waktu *parking*.
2. Menjaga kecepatan; untuk memberikan peringatan mengenai berapa kecepatan maksimum yang diijinkan pada suatu area, maka dilakukan penambahan perangkat GPS atau *G-track* pada mobil perusahaan dan kontraktor untuk mencatat kecepatan serta memberikan peringatan (*alarm*) ketika kecepatan maksimum tercapai. Selain itu, dilakukan *speeding hunter*, yakni operasi secara mendadak dan sembunyi untuk mengamati kecepatan berkendara.
3. Gerak mundur; untuk memberikan peringatan dan aba-aba pada waktu gerak mundur maka dibuat SOP untuk gerakan mundur, yang mewajibkan adanya *swamper/spotter/signalman*, yakni orang yang memberikan aba-aba saat gerak mundur khususnya untuk *heavy vehicle*. Pemasangan *sensor parking* juga membantu pada saat gerak mundur untuk *parking*. Usulan untuk memasang



kamera belakang/ kamera mundur tidak disetujui karena dirasa adanya *signalman* dan *sensor parking* sudah mencukupi.

4. Mengaktifkan mata; sesuai prinsip *smith system* (jaga jarak, pandang luas, pandang jauh, aktifkan mata, pastikan lawan melihat anda serta siapkan gerak menghindar), yang harus selalu dijaga, untuk itu perlu dilakukan *refreshment training* dan juga *commentary driving* secara berkala. Jikalau mata lelah/mengantuk, maka diperlukan sopir pendamping (*buddy system*) untuk menggantikan.
5. Untuk memitigasi faktor penyebab pengemudi yang kurang terlatih, maka dilakukan *refreshment training* dan *commentary driving* serta ujian untuk mendapatkan kartu pengemudi. Dan pada saat awal (3 bulan pertama) dapat didampingi oleh sopir pendamping yang memberikan arahan.
6. Untuk memitigasi faktor penyebab karena *blindspot*, maka perlu dilakukan sosialisasi mengenai *blind spot*, *signalman* juga dapat memberikan aba-aba untuk memitigasi *blindspot*.



Gambar 4. 14 Skema footprint untuk blind spot tipikal (mobil setir kiri)  
 Note : Untuk mobil setir kanan, *footprint blind spot*-nya perlu di-mirror dari *footprint* setir kiri (scribd, 2011)

#### 4.3.2 Mengurangi *Injury* (Cedera)

*Injury* atau yang lebih sering dikenal dengan cedera merupakan kecelakaan yang sering terjadi di PT. X setelah kecelakaan kendaraan bermotor. *Injury* yang terdokumentasi merupakan salah satu parameter penilaian kehandalan



operasi di PT. X. Risiko cedera sebagai hasil dari interaksi individu terhadap suatu kondisi lingkungan dapat dikendalikan dengan mengetahui faktor-faktor penyebab risiko, dan menguranginya.

Faktor resiko cedera bisa dikategorikan dalam dua hal, yakni faktor eksternal dan faktor internal, faktor eksternal bisa berupa bahaya fisika (gravitasi, pergerakan peralatan, suhu, tekanan/*pressure*, dan lain-lain), kimia (bahan kimia, dan lain-lain), biologis (serangan hewan, dan lain-lain). Sedangkan faktor internal datang dari individu itu sendiri, misalnya kondisi tubuh, kondisi psikologis, usia, dan lain-lain.

Untuk menghindari risiko cedera sewaktu melakukan pekerjaan, pekerja harus bisa mengantisipasi bahaya-bahaya apa saja yang mungkin akan timbul, beberapa hal sudah diimplementasikan sebagai berikut:

1. *Job safety analysis* dilakukan sebelum melakukan pekerjaan digunakan untuk mengidentifikasi bahaya-bahaya yang mungkin timbul dalam pekerjaan.
2. *Job hazard analysis*, dilakukan di lokasi kerja untuk mengidentifikasi bahaya-bahaya yang ada di lokasi kerja.
3. *Standard Operating Procedure*, urutan-urutan operasi untuk melakukan pekerjaan.
4. Alat perlindungan diri, contohnya: helm, kaca mata, sepatu, sarung tangan, dan lain-lain.
5. *Access control*, untuk mengidentifikasi bahwa hanya *authorized person* yang boleh memasuki lokasi kerja.
6. *Permit to Work*, ijin kerja yang sudah disetujui oleh *responsible person*, *supervisor* dan *facility owner*, jika belum ada ijin, maka belum diperbolehkan mulai pekerjaan.
7. Ijin kerja khusus, seperti melakukan pekerjaan pengelasan, *hot tapping*, berada di ruang tertutup dan minim oksigen, bekerja di ketinggian, penggalian, dan lain-lain.
8. *Material safety data sheet* (MSDS) untuk mengidentifikasi bahaya kimia dan cara penanganannya.



9. *Stop work authority (SWA)*, siapapun berhak menghentikan pekerjaan jika melihat dan mengetahui bahaya yang akan terjadi.
10. *Lock Out Tag Out (LOTO)*, untuk mengisolasi sumber-sumber energi/bahaya.
11. *Emergency equipment*, seperti *fire extinguishers*, *eye wash*, dan lain-lain. harus disediakan.
12. *Traffic management plan*, jika banyak peralatan bekerja/bergerak dalam satu lokasi, maka diperlukan perencanaan arah gerak alat-alat tersebut.
13. *SIMOPS (Simultaneous Operations)*, jika dalam satu lokasi banyak melibatkan team yang bekerja untuk hal yang berbeda.
14. *Base Behaviors Safety (BBS)* setiap pekerja dituntut untuk saling mengingatkan rekan sekerja dalam hal keselamatan, mengobservasi mereka dan mendokumentasikannya.
15. *Tailgate meeting*, sebelum melakukan pekerjaan maka semua anggota pekerja wajib mengikuti *tailgate meeting* untuk membahas rencana kerja dan saling mengingatkan dalam keselamatan.

Dari data hasil analisa nilai probabilitas pada Tabel 4. 8 dapat diketahui bahwa penyebab utama / terbesar untuk kecelakaan kerja yang mengakibatkan cedera adalah perilaku gagal dalam mengidentifikasi bahaya yang ada di sekitar tempat bekerja. Identifikasi bahaya atau lebih dikenal dengan *hazard identification* merupakan pekerjaan pertama yang harus dilakukan sebelum melakukan pekerjaan. Kegiatan mengidentifikasi bahaya umumnya dilakukan secara menyeluruh oleh *crew* atau tim yang akan melakukan pekerjaan tersebut dengan diperiksa secara berkala oleh *supervisor*.

Setelah dilakukan diskusi dengan pimpinan, ahli serta pihak terkait (departemen HES (*health, environment and safety*)) berikut usulan-usulan untuk mengurangi risiko *injury* yang disebabkan oleh kegagalan mengidentifikasi bahaya sekitar:

1. Menggalakkan program *hazard hunt*, yakni untuk mengidentifikasi bahaya yang ada di lingkungan kerja sekitar, dan barangsiapa yang menemukan dan dapat mengidentifikasi dengan lebih baik diberikan hadiah/*award*.



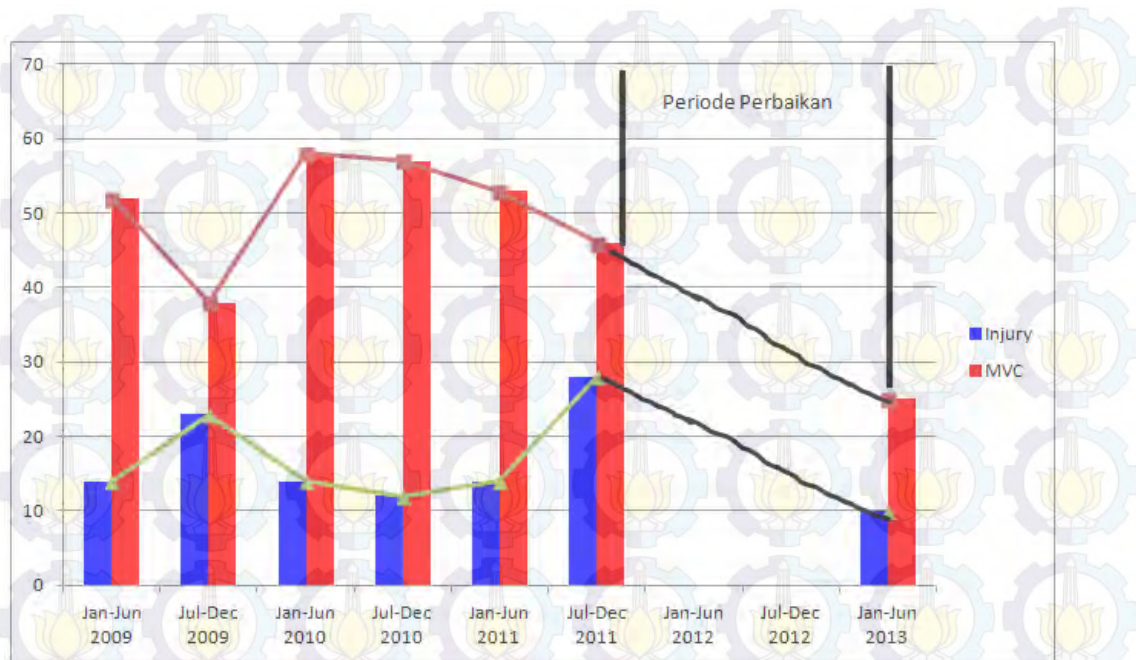
Dengan menggalakkan program *hazard hunt*, pekerja baik dari PT. X maupun dari mitra kerja dituntut untuk terus aktif dalam mengidentifikasi potensi bahaya yang ada di sekitar tempat kerja, dan jika sesuatu yang masih belum dimengerti dengan segera akan mendiskusikan dengan atasan atau *supervisor*.

2. Menggalakkan program *management visit* ke lokasi-lokasi proyek yang sedang berlangsung, untuk meninjau keberlangsungan proyek dan kesesuaian dengan aturan keselamatan. Harapannya kontraktor akan terus bertindak selamat untuk memenuhi harapan manajemen.
3. Mengadakan *sharing session* setiap bulan yang membahas tentang temuan dari *hazard hunt* dan topic keselamatan dan sekaligus *event* untuk diskusi antar mitra kerja dengan manajemen PT. X.
4. Mengadakan program *industrial theatrical* yakni drama yang dikemas isinya sosialisasi tentang keselamatan dan cara-cara unik untuk mengidentifikasi bahaya sekitar, diperankan langsung oleh karyawan dan mitra kerja. Pertunjukkan drama atau teater dimaksudkan agar pesan yang ingin disampaikan mengenai keselamatan akan mudah dan selalu diingat.

#### **4.3.3 Hasil Perbaikan/Penanganan Risiko**

Usulan-usulan yang dihasilkan dari penelitian tesis ini disampaikan kepada pihak terkait, yakni departemen HES (*Health, Environment and Safety*) di PT. X untuk diimplementasikan. Setelah mengimplementasikan usulan dari penelitian ini sebagai salah satu langkah tindakan perbaikan dengan menghilangkan ataupun mengurangi faktor-faktor penyebab kecelakaan yang ada maka angka kecelakaan MVC dan *injury* dapat berkurang sebagaimana diilustrasikan pada Gambar 4. 15.





Gambar 4. 15 Angka Kecelakaan Menurun Setelah Perbaikan di 2012

Dari Gambar 4. 15 di atas terlihat penurunan angka kecelakaan, untuk kecelakaan kendaraan bermotor (MVC) penurunannya sebesar 46%, sedangkan untuk kecelakaan yang mengakibatkan *injury* (cedera) penurunannya sebesar 64%. Berdasarkan laporan tahunan PT. X pada tahun 2011, *Cost of Incident* yang harus ditanggung oleh PT. X adalah sebesar USD 680,000 atau sebesar Rp. 6,8 Milyar (kurs US \$1 = Rp.10.000,-). Dengan berkurangnya angka kecelakaan maka dapat dipastikan terdapat penurunan pula terhadap *cost of incident* yang harus ditanggung PT. X. Sedangkan perkiraan biaya yang dikeluarkan oleh PT. X untuk melakukan tindakan penanganan risiko pada tahun 2012 adalah sebesar Rp. 1,55 Milyar atau sekitar USD 155,000 seperti yang diuraikan pada Tabel 4. 10.

Biaya yang dikeluarkan untuk tindakan perbaikan tersebut antara lain digunakan untuk memberikan *training*, inspeksi peralatan, pemasangan *sensor parking*, audit ke lapangan minimum 2 kali per bulan, pemberian *insentif/award*. Perkiraan biaya yang dikeluarkan untuk tindakan perbaikan tersebut dapat diperkirakan seperti pada Tabel 4. 10.



Tabel 4. 10 Perkiraan Biaya Penanganan Risiko/Perbaikan di PT. X

No	Perbaikan yang dilakukan	Jumlah	Unit	Biaya per unit (Rp.)	Biaya (Rp.)
1	Memberikan <i>training</i> berkendara yang selamat				
	Modul Pelatihan	6000	orang	40,000	240,000,000
	Alat tulis	6000	orang	20,000	120,000,000
	<i>Trainer (in house-tim HES internal PT. X)</i>	30	orang	-	-
	Konsumsi	6000	orang	40,000	240,000,000
2	Memberikan <i>training</i> pondasi bekerja selamat				
	Modul Pelatihan	1000	orang	40,000	40,000,000
	Alat tulis	1000	orang	20,000	20,000,000
	<i>Trainer (in house-tim HES internal PT. X)</i>	20	orang	-	-
	Konsumsi	1000	orang	40,000	40,000,000
3	Mengadakan <i>industrial theatrical</i>				
	Biaya peralatan untuk pertunjukkan	1	paket	10,000,000	10,000,000
	Biaya aktor pertunjukkan	50	orang	2,500,000	125,000,000
4	Inspeksi peralatan				
	Inspeksi alat oleh <i>inspector (third party)</i>	500	alat	300,000	150,000,000
5	Penambahan <i>sensor parking</i>				
	Biaya material & pemasangan <i>sensor parking</i>	500	alat	650,000	325,000,000
6	Audit ke lapangan (minimum 2 kali per bulan)				
	Biaya transport (v.v)	2400	kali	100,000	240,000,000
7	Pemberian insentif/ <i>award</i>				
	Pemberian insentif	1000	orang	250,000	250,000,000
	Total				1,550,000,000

Dari data PT. X pada tahun semester 1 tahun 2013, setelah dilakukan perbaikan, angka kecelakaan sudah mengalami penurunan, walaupun begitu masih terjadi kecelakaan seperti terlihat pada Tabel 4. 11.



Tabel 4. 11 Data Insiden di PT. X Setelah Dilakukan Perbaikan

Tipe Insiden	Jumlah Kejadian	Persentase
MVC	25	71,43%
TRI	10	28,57%
DAFW	0	0,00%
Fire	0	0,00%
Oil Spill	0	0,00%
Fatality	0	0,00%
Total	35	100%

Untuk data penyebab dasar kecelakaan MVC dan *injury* yang terjadi setelah dilakukan penanganan risiko diperoleh data seperti pada Tabel 4. 12 untuk MVC dan Tabel 4. 13 untuk *injury* sebagai berikut;

Tabel 4. 12 Penyebab Dasar Kecelakaan MVC Setelah Dilakukan Perbaikan

Penyebab Dasar Kecelakaan MVC	Jumlah	Nilai Probabilitas
Tindakan tidak aman dari pengemudi lain	10	0.2857
Jarak aman tidak terpenuhi	5	0.1429
Parkir yang tidak benar	3	0.0857
Mundur yang tidak benar	2	0.0571
Kurang mengaktifkan mata	2	0.0571
Pengemudi yang kurang terlatih	1	0.0286
Menyalip yang tidak benar	1	0.0286
Blind Spot	1	0.0286

Tabel 4. 13 Penyebab Dasar Kecelakaan yang Mengakibatkan *Injury* Setelah Dilakukan Perbaikan

Penyebab Dasar Kecelakaan	Jumlah	Nilai Probabilitas
Gagal mengidentifikasi bahaya sekitar	2	0.0571
Melakukan tindakan yang tidak aman	2	0.0571
Informasi yang kurang tentang suatu benda	1	0.0286
Kurangnya komunikasi antar pekerja	1	0.0286
Melanggar SOP/SOP tidak benar	1	0.0286
Peralatan yang tidak <i>standard</i> /tidak cukup	1	0.0286
Kurangnya <i>skill</i> dan <i>knowledge</i>	1	0.0286
Kurangnya isolasi energi berbahaya	1	0.0286

Dengan menggunakan data yang diperoleh dari Tabel 4. 11 dan Tabel 4. 12, kemudian melakukan analisa *fault tree*, hingga diperoleh diagram seperti ditunjukkan pada Gambar 4. 16. Dengan menggunakan persamaan 4.1 dapat maka



dapat dihitung nilai probabilitas masing – masing *logic gate*, seperti contoh perhitungan berikut:

$$P(E) = 1 - \{(1-P(3)) \times (1-P(5)) \times (1-P(6)) \times (1-P(9))\}$$

$$P(E) = 1 - \{(1-0.0571) \times (1-0.0571) \times (1-0.0786) \times (1-0.0286) \times (1-0.0857)\}$$

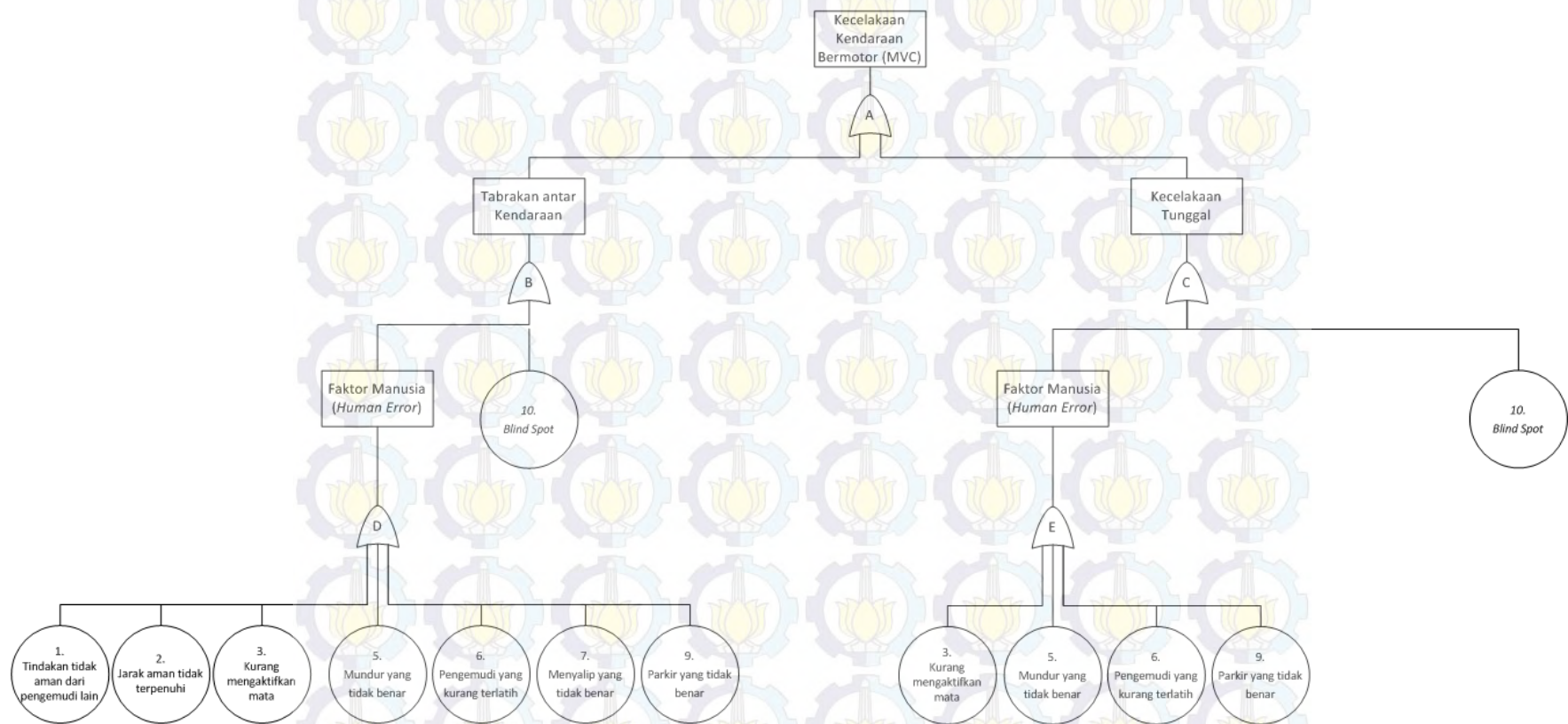
$$P(E) = 0,2104$$

Dengan cara yang sama seperti di atas, dapat diperoleh nilai probabilitas masing-masing *logic gate* dari hasil perhitungan sebagai berikut:

Tabel 4. 14 Data Perhitungan Probabilitas Penyebab Dasar Kecelakaan MVC Setelah Dilakukan Perbaikan

Gate (X)	P(X)
A	0,6501
B	0,5438
C	0,2330
D	0,5304
E	0,2104

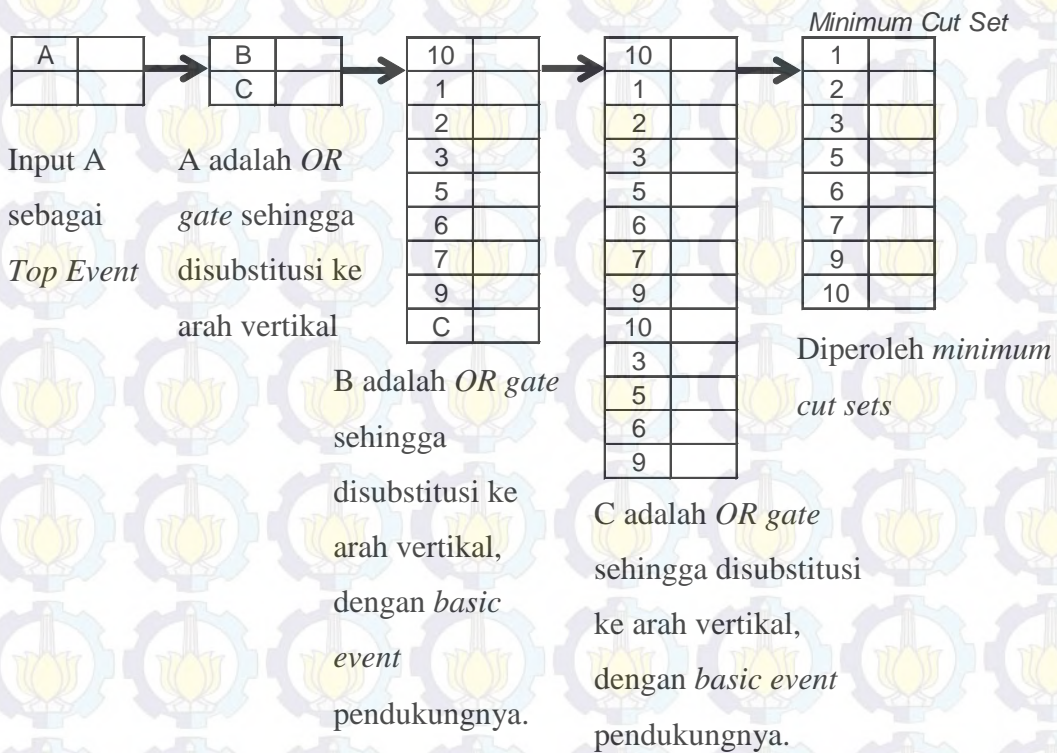




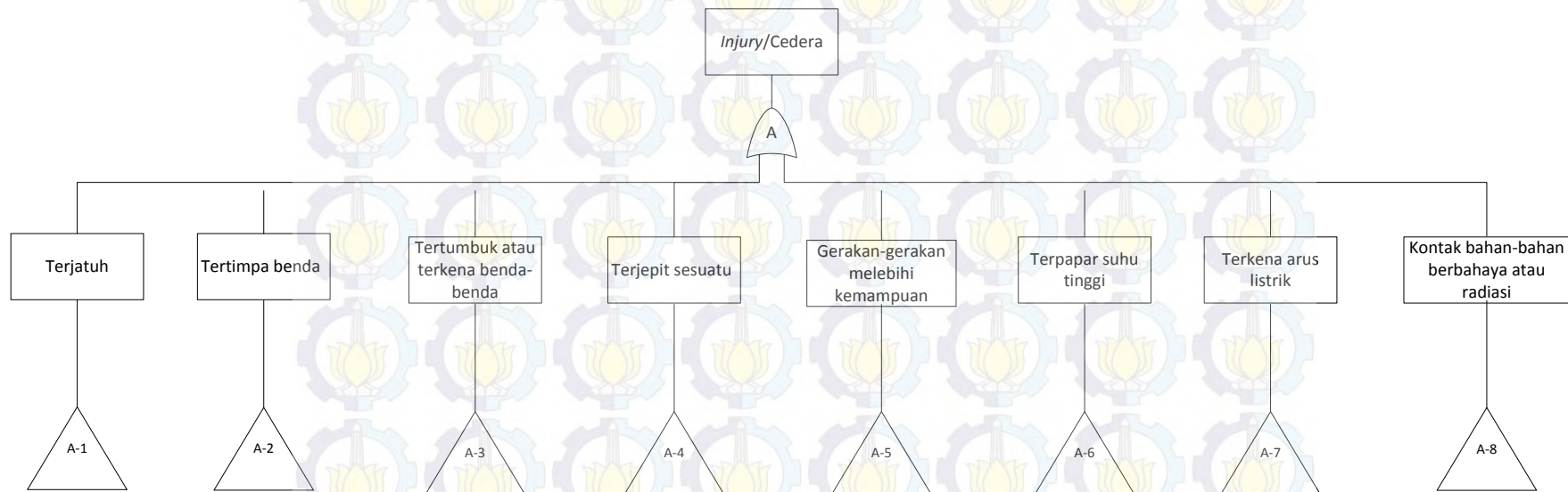
Gambar 4. 16 *Fault Tree Diagram* Kecelakaan MVC Setelah Dilakukan Perbaikan/Penanganan Risiko



Analisa *Fault tree* untuk kecelakaan MVC setelah dilakukan upaya perbaikan/penanganan risiko untuk mencari nilai *minimum cut sets* adalah sebagai berikut:

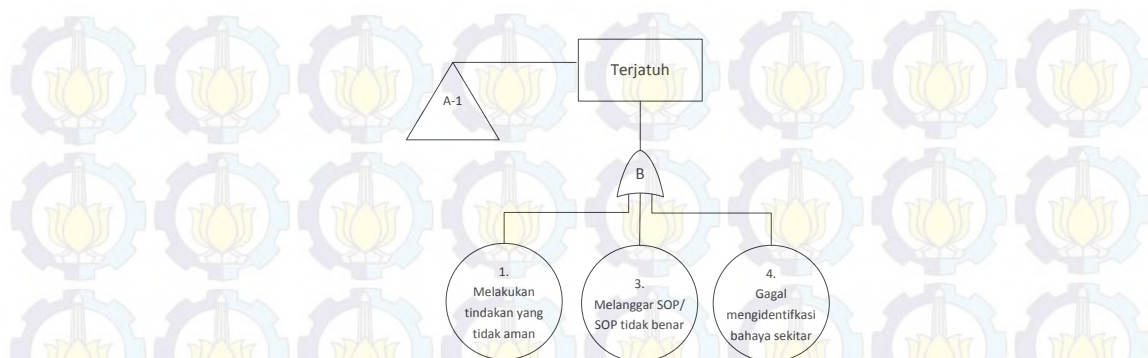






Gambar 4. 17 FTA *Top Event* untuk Kecelakaan yang Mengakibatkan *Injury* Setelah Dilakukan Perbaikan

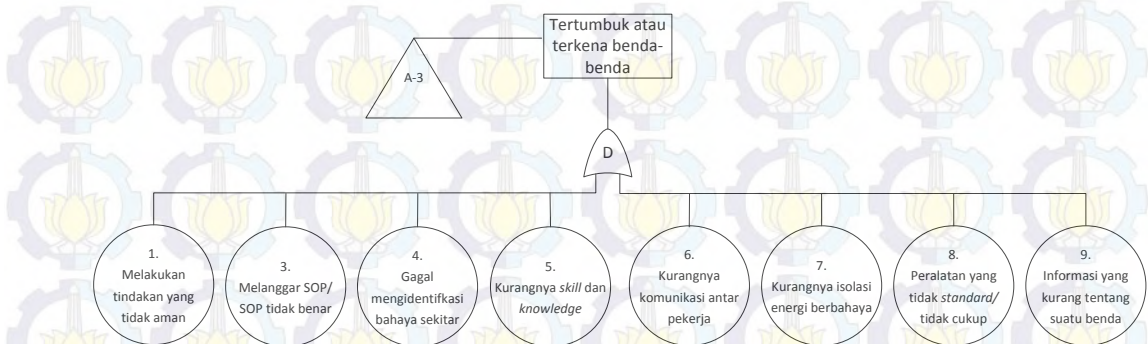




Gambar 4. 18 FTA *Intermediate Event* untuk Terjatuh Setelah Dilakukan Perbaikan

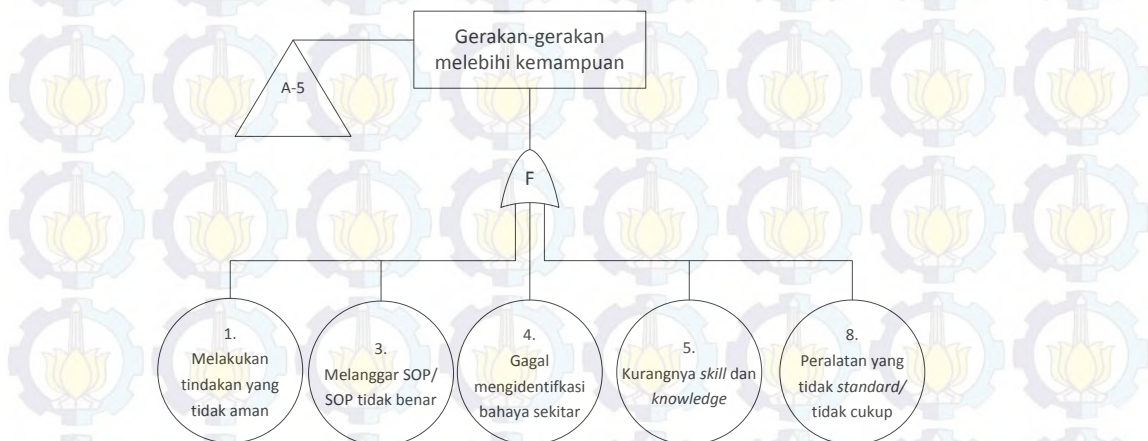
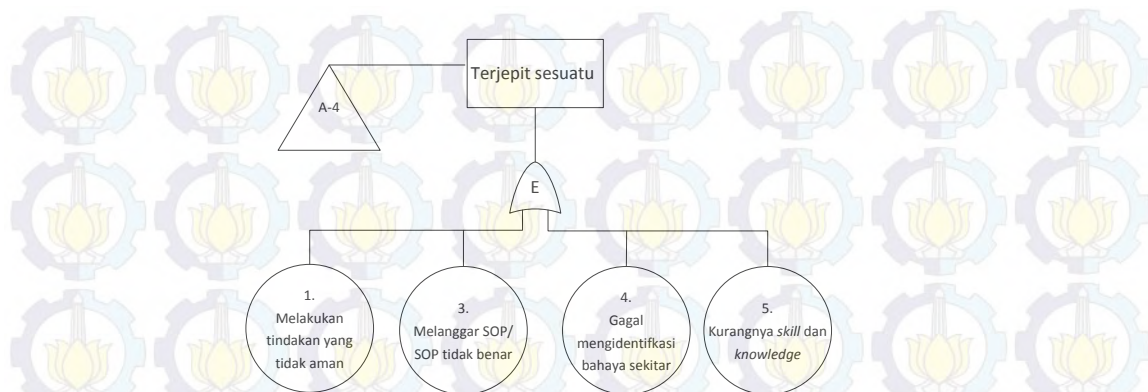


Gambar 4. 19 FTA *Intermediate Event* untuk Tertimpa Benda Setelah Dilakukan Perbaikan

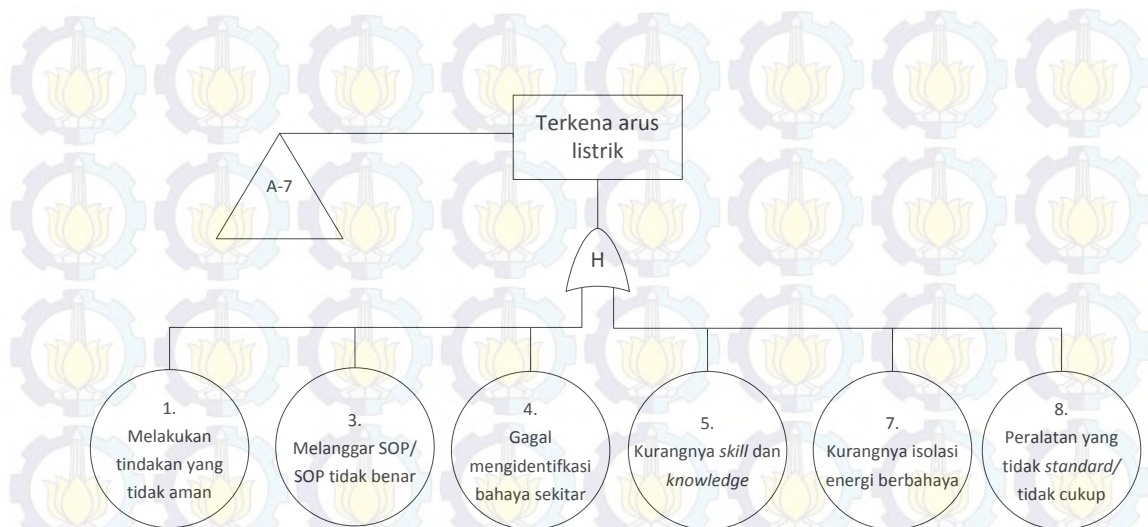


Gambar 4. 20 FTA *Intermediate Event* untuk Tertumbuk Benda Setelah Dilakukan Perbaikan

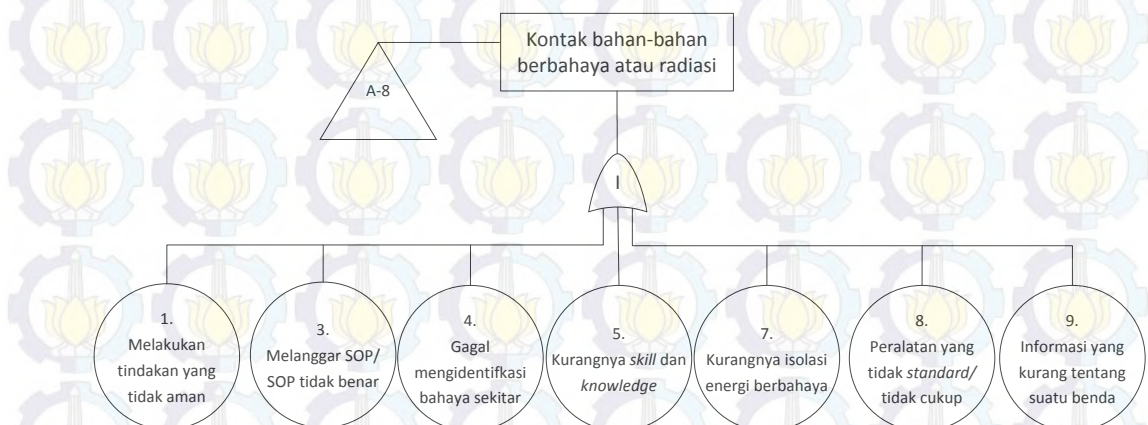








Gambar 4. 24 FTA *Intermediate Event* untuk Terkena Arus Listrik Setelah Dilakukan Perbaikan



Gambar 4. 25 FTA *Intermediate Event* untuk Kontak dengan Bahan Berbahaya Setelah Dilakukan Perbaikan

Analisa *fault tree* untuk kecelakaan yang mengakibatkan *injury* setelah dilakukan perbaikan/penanganan risiko untuk mencari nilai *minimum cut sets* adalah sebagai berikut:

A	

Input A sebagai *Top Event*

B	
C	
D	
E	
F	
G	
H	
I	

A adalah *OR gate* sehingga disubstitusi ke arah vertikal

1	
3	
4	
C	
D	
E	
F	
G	
H	
I	

1	
3	
4	
1	
3	
4	
5	
D	
E	
F	
G	
H	
I	

1	
3	
4	
1	
3	
4	
5	
1	
3	
4	
5	
6	
7	
8	
9	
E	
F	
G	
H	
I	

B, C, D, E, F, G, H dan I adalah *OR gate* sehingga disubstitusi ke arah vertikal, begitu seterusnya.

1	
3	
4	
1	
3	
4	
5	
1	
3	
4	
5	
6	
7	
8	
9	
1	
3	
4	
5	
F	
G	
H	
I	

1	
3	
4	
1	
3	
4	
5	
1	
3	
4	
5	
6	
7	
8	
9	
1	
3	
4	
5	
1	
3	
4	
5	
8	
G	
H	
I	

1	
3	
4	
1	
3	
4	
5	
1	
3	
4	
5	
6	
7	
8	
9	
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4	
5	
1	
3	
4	
5	
8	
1	
3	
4	
7	
8	
H	
I	

1	
3	
4	
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4	
5	
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6	
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4	
5	
7	
8	
9	



Dengan menggunakan data yang diperoleh dari Tabel 4. 11 dan Tabel 4. 13 kemudian melakukan analisa *fault tree*, hingga diperoleh diagram seperti ditunjukkan pada Gambar 4. 17. Dengan menggunakan persamaan (4.1) ataupun (4.4) dan data nilai probabilitas *basic event* pada Tabel 4. 13 maka dapat dihitung nilai probabilitas masing – masing *logic gate*, seperti contoh perhitungan berikut:

$$P(B) = 1 - \{(1-P(1)) \times (1-P(3)) \times (1-P(4))\}$$

$$P(B) = 1 - \{(1-0.0571) \times (1-0.0286) \times (1-0.0571)\}$$

$$P(B) = 0,1244$$

Dengan menggunakan persamaan 4.1 dapat diperoleh data hasil perhitungan sebagai berikut:

Tabel 4. 15 Data Perhitungan Probabilitas Penyebab Dasar Kecelakaan yang Mengakibatkan *Injury* Setelah Dilakukan Perbaikan

Gate (X)	P(X)
A	0,7227
B	0,1244
C	0,1244
D	0,1994
E	0,1295
F	0,1398
G	0,1398
H	0,1448
I	0,1801





## KESIMPULAN

Pada bab ini akan dibahas suatu kesimpulan atas analisa dari hasil pengolahan data yang telah dilakukan. Selain itu juga berisi saran-saran yang diharapkan dapat bermanfaat untuk penelitian selanjutnya.

### 1.1 KESIMPULAN

Berdasarkan pengolahan data dan analisa dalam penelitian ini, maka dapat disimpulkan sebagai berikut:

1. MVC (*Motor Vehicle Crash*) dan Injury (TRI (*Total Recordable Injury*) dan DAFW (*Days Away From Works*)) merupakan 2 jenis kecelakaan kerja yang sering terjadi di PT.X. Pada kurun waktu 2009-2011, angka MVC mencapai 72.38 %, sedangkan angka *injury* mencapai 25.00 %.
2. Faktor manusia (*human error*) merupakan faktor terbesar terjadinya kecelakaan kendaraan bermotor (MVC, *motor vehicle crash*). Faktor penyebab utama kecelakaan kendaraan bermotor di PT. X pada tahun 2009-2011 adalah tindakan tidak aman yang dilakukan oleh pengemudi lain. Kecelakaan kendaraan bermotor di PT. X pada tahun 2009-2011 banyak melibatkan *heavy vehicle*. Kecelakaan kendaraan bermotor di PT. X pada tahun 2009-2011 banyak menimpa mitra kerja. Probabilitas kecelakaan kendaraan bermotor di PT. X pada tahun 2009-2011 yang dianalisa dengan menggunakan *fault tree* memberikan nilai sebesar 0,6933. Sedangkan faktor penyebab utama kecelakaan kerja yang mengakibatkan cedera di PT. X pada tahun 2009-2011 adalah pekerja gagal melakukan identifikasi bahaya di lingkungan sekitar. Kecelakaan kerja yang mengakibatkan cedera di PT. X pada tahun 2009-2011 banyak menimpa mitra kerja. Anggota gerak (tangan dan kaki) adalah yang paling sering mengalami cedera akibat kecelakaan kerja. Probabilitas kecelakaan kerja yang mengakibatkan cedera di PT. X pada tahun 2009-2011 yang dianalisa dengan menggunakan *fault tree* memberikan nilai sebesar 0,8123.
3. Beberapa upaya perbaikan untuk mengurangi kecelakaan kendaraan bermotor antara lain: penerapan *buddy system* (sopir pendamping), pemasangan *sensor parking*, mengharuskan *signalman* untuk memberi aba-aba, dan lain-lain. Sedangkan upaya perbaikan yang



dilakukan untuk mengurangi kecelakaan kerja yang mengakibatkan cedera antara lain: menggalakkan program *hazard hunt*, program *management visit*, program *sharing session*, serta program *industrial theatrical* untuk memberikan pemahaman lebih mengenai bahaya dan cara memitigasinya.

4. Hasil *Fault Tree Analysis* untuk MVC mempunyai probabilitas terjadinya kecelakaan kendaraan bermotor sebesar 0,6933. Setelah dilakukan upaya perbaikan ataupun penanganan risiko, maka diperoleh probabilitas terjadinya kecelakaan yang baru. Probabilitas terjadinya kecelakaan kendaraan bermotor menjadi sebesar 0,6501. Penurunan nilai probabilitas MVC tidak begitu besar, hal ini disebabkan faktor utama penyebab terjadinya kecelakaan kendaraan bermotor yakni tindakan tidak aman dari pengemudi lain merupakan variabel yang tidak dapat dikontrol, karena terkait dengan pihak luar. Sedangkan untuk *injury*, mempunyai probabilitas terjadinya kecelakaan kerja yang mengakibatkan *injury* sebesar 0,8123. Penyebab utama dari kecelakaan kerja yang mengakibatkan cedera adalah pekerja gagal melakukan identifikasi bahaya sekitar. Setelah dilakukan upaya perbaikan ataupun penanganan risiko, probabilitas terjadinya kecelakaan kerja yang mengakibatkan *injury* menjadi sebesar 0,7227.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
1	Jan	Sabtu	10/Jan/2009	10:00	Field Area	Struck by/hit from rear	Light vehicle	light vehicle	contractor	On Saturday, 10 January 2009 at 10:00, Mazda PU BM 8522DB which was driven by TJE employee was on the way from Nella field heading toward Bangko, followed by Ford Ranger PU BM 8459 DC driven by PT IJP employee. Approaching Bangko #81 intersection, TJE vehicle slipped to the right side due to slippery and muddy road condition, PT IJP vehicle failed to anticipate and behind hit right rear side of TJE vehicle. This resulted the right rear signal lamp of PT TJE vehicle broken and its body got dented while left front lamp of PT IJP vehicle broken and its left bumper damaged. No injury.
2	Jan	Sabtu	10/Jan/2009	10:00	Field Area	running off the road	Light vehicle	light vehicle	contractor	On Saturday, 10 January 2009 at 10:00, Mazda PU BM 8522DB which was driven by TJE employee was on the way from Nella field heading toward Bangko, followed by Ford Ranger PU BM 8459 DC driven by PT IJP employee. Approaching Bangko #81 intersection, TJE vehicle slipped to the right side due to slippery and muddy road condition, PT IJP vehicle failed to anticipate and behind hit right rear side of TJE vehicle. This resulted the right rear signal lamp of PT TJE vehicle broken and its body got dented while left front lamp of PT IJP vehicle broken and its left bumper damaged. No injury.
3	Jan	Senin	12/Jan/2009	16:00	Field Area	Backing	Light vehicle	single	PT. X	On Monday, 12 January 2009 at 16:00, Ford Ranger-22X10587 which was driven by PT PT. X employee, hit wellhead of Injector 7P-45B. This occurred when the driver tried to reverse the vehicle. This resulted minor damage at rear body of the vehicle while the well head had no damage. No Spill. No injury.
4	Jan	Rabu	14/Jan/2009	15:40	Field Area	Struck by/hit from rear	Light vehicle	motorcycle	PT. X	On Wednesday, 14 January 2009 at 15:40, Ranger 22X10644 BM8647DF driven PT. X employee was on the way from Pematang GS to Duri. Arrived at Pematang main road KM 12, he pulled the car to the right and gave signal intended to stop at the right side of the road. When the vehicle was crossing the road, a motorcycle came from behind and hit the vehicle. This resulted the right front vender of the vehicle got dented and its tire rod broken. Motorcycle's driver & passenger suffered minor injury and were brought immediately to local clinic.
5	Jan	Jumat	16/Jan/2009	14:45	Field Area	running off the road	Heavy Vehicle	single	contractor	On Friday 16 January 2009 at 14:45 PM, Dump Truck M-DT 0110 driven by PT Multi Structure Employee was on the way from location 6U-34B (after unloading) heading to Murini B. Pit. Arriving at Jalan lima near 5U, dump truck run off to the left side of the road and hit the pipe corridor. This caused damage left hand front bumper and rear wheel guard broken
6	Jan	Senin	19/Jan/2009	12:05	camp Area	Struck by/hit from rear	Light vehicle	motorcycle	PT. X	On Friday 19 January 2009 at 12:05 PM, PT. X Car 21x 10271 on the way to Gate#4 Sibayak for pickup school receipt to the office. Reaching Parking Lot Sibayak PT. X, the car was reducing speed. Suddenly, there was a motor cycle hit the car's back side. This resulted the left sign lamp broken. No injury.
7	Jan	Jumat	23/Jan/2009	13:58	Public Road	Struck by/hit from rear	Heavy Vehicle	heavy vehicle	company	On Friday 23 January 2009 at 13:58, Company Prime mover 6x326 driven by PT Adhi Karya Employee was on the way for hauling 8" pipe from Dumai warehouse to P3-Area-9 Duri. Arrived at Retribution Post (TPR) the Prime mover stopped due to queuing condition 5 meters behind CPO Truck. The CPO Truck was trying to reverse to get more space for over taking the other fuel truck and hit front part of Prime mover. This resulted the radiator of Prime Mover leak, its front bumper scratched. No injury
8	Jan	Sabtu	24/Jan/2009	15:15	Field Area	head on collision	Heavy Vehicle	motorcycle	contractor	On Friday 24 January 2009 at 15:15 hrs, Cargo truck BM8842DD was entering long uphill section of Suram-Lindai road. On the top of the section, cargo truck hit with head to head collision with opposite motorcycle. The motorcyclist was sent to RS Dharma Bhakti PTP Tandun and died on the way to Pekanbaru Hospital. This also caused damage to motorcycle and the right side of Cargo Truck got dented.
9	Jan	Selasa	27/Jan/2009	8:00	camp Area	Sidesweep	Light vehicle	single	contractor	On Tuesday 27 January 2009 at 08:00 hrs, Pick up CS-045 driven by PT Adhi Karya employee was on the way from AK Yard KM 125 heading to Murini Borrow Pit. Arrived at intersection, while the driver of AK CS-045 was looking at other side, AK vehicle moved forward and hit BKL vehicle which was stopped at the stop sign. This resulted the rear body of BKL vehicle and its R/H Bumper got dented while AK CS-045 got no damage. No injury.
10	Jan	Selasa	27/Jan/2009	8:00	camp Area	Struck by/hit from rear	Light vehicle	light vehicle	contractor	On Tuesday 27 January 2009 at 08:00 hrs, Pick up CS-045 driven by PT Adhi Karya employee was on the way from AK Yard KM 125 heading to Murini Borrow Pit. Arrived at intersection, while the driver of AK CS-045 was looking at other side, AK vehicle moved forward and hit BKL vehicle which was stopped at the stop sign. This resulted the rear body of BKL vehicle and its R/H Bumper got dented while AK CS-045 got no damage. No injury.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
11	Jan	Selasa	27/Jan/2009	12:30	Parking lot	Backing	Light vehicle	light vehicle	PT. X	On Tuesday 27 January 2009 at 12:30 hrs, company vehicle (Terios PT. X # 10138) which was driven by PT PT. X employee, was on the way from Pari office to take lunch. Arrived at parking lot Gate 125, while the driver was trying to reverse the vehicle to park, it hit another PT. X vehicle (Terios #10159) that was being parked. This resulted the front bumper of Terios #10159 got dented. No injury.
12	Jan	Jumat	30/Jan/2009	9:40	Field Area	Sidesweep	Light vehicle	motorcycle	PT. X	On Friday, 30 January 2009 at 09:40, a company vehicle 22 x 10016 driven by PT. X employee was on the way to Libo after completing the work in Waduk area. During the trip, an outsider Motor Cycle came out from bush at the side of road and side swept with company vehicle. Motor cycle rider was injured and brought to nearest clinic. This also caused the company vehicle got damage.
13	Jan	Jumat	30/Jan/2009	15:00	Parking lot	Backing	Light vehicle	single	PT. X	On Friday 30 January 2009 at 15:00 PM, a Ford Ranger Double Cabin 10684 (BM 8692 DF) driven by the person intend to reverse park at Wisma Pelita parking lot for commentary driving after passing from Defensive Driving Course (not having PT. X driving permit yet). While he was backing, the rear right body of the Ford Ranger Double Cabin 10684 (BM 8692 DF) hit pillar of parking canopy in front of Wisma Pelita. This incident resulted the rear right body of the Ford Ranger Double Cabin 10684 (BM 8692 DF) dented.
14	feb	Selasa	03/Feb/2009	12:44	Field Area	running off the road	Light vehicle	single	PT. X	On Tuesday, 3 February 2009 at 12:44, a company vehicle (Mazda PU 10080 ) driven by PT. X Employee was on the way from Bangko #269 toward Bangko Test Station A. When passing the Bangko #177, the driver was distracted and hit the pipe guard. This resulted the right hand front fender of the vehicle got dented and its right hand front mud guard detached. No injury
15	feb	Jumat	06/Feb/2009	11:00	camp Area	Sidesweep	bus	light vehicle	contractor	On 06 February 2009 jam 11:05, bus OPE 9806 went from SD Cendana hauling students. Arrived ati Gate # 4 Sibayak Duri to drop the pessanger but suddenly struck by Hardtop BM 1078 DA (driven by Expat's wife)
16	feb	Senin	09/Feb/2009	10:30	Field Area	Roll-back	Heavy Vehicle	single	Contractor	On Monday, 9 February 2009 at 11:35, while moving from BKO # 155 to BKO # 277, ACS tandem truck that was loading mud tank turned to the right at intersection and flipped to the left side. No injury.
17	feb	Senin	09/Feb/2009	17:10	Public Road	Struck by/hit from rear	Light vehicle	heavy vehicle	PT. X	On Monday 9 February 2009 at 17:04 hrs, PT. X vehicle (Pick up PT PT. X # 10269) was on the way from Area-4 field toward GS-4. Arrived at KM 39, the driver was intended to turn to left toward field road then a logging truck came from rear and side swept left side of PT. X vehicle. The logs fell down to PT. X vehicle and resulted damages to the vehicle and injury to the PT. X Driver. After gettingt treatment, the injured driver got 2 stitches and antibiotics.
18	feb	Senin	16/Feb/2009	13:00	Field Area	Running into Fix Object	Heavy Vehicle	single	contractor	On Monday, 16 February 2009 at 13:00 hrs, Crew Dowell Schlumberger were in preparation to execute Fracturing job at well 2A-54N (multi pad) which being executed by Rig DPC #05. During spotting all equipment, the driver of pump truck #98013 moved the truck forward but it hit the junction box of well 2A-72A located in front of the truck resulted the junction box broken and the well was down for about 7 hours. No damage to the truck. No injury.
19	feb	Rabu	18/Feb/2009	11:35	Field Area	Backing	Heavy Vehicle	heavy vehicle	contractor	On Wednesday, 18 February 2009 at 11:35, Dumpertruck TJE #210 intended to take position of his truck toward Excavator for loading. When reversing without spotter, the driver could not anticipate the clearance of the area behind. Seeing this situation, the driver of parked Dumpertruck #225 that was already inside of the cabin tried to blow the horn but the Dumpertruck #210 kept reversing and hit front body of parked Dumpertruck TJE #225. This resulted damage to front windshield of Dumpertruck #225. No damage to Dumpertruck#210. No Injury.
20	feb	Jumat	20/Feb/2009	17:30	Field Area	running off the road	Light vehicle	single	PT. X	On Friday, 20 February 2009 at 17:30 hrs, shift operator was driving company vehicle (pick-up 22x10058) from South Bekasap Gathering Station toward South Bekasap field to continue his routine wells inspection. When he was passing a slightly curved to the left road to well #12, he encountered a muddy and slippery road resulted his car skidded to the left and right. The driver tried to balance it few times but failed. The driver then applied the brake, but the car continued to move uncontrollable, then it stopped after hitting the production flow lines on the right hand side of the road. No injury to the driver, and no damage to the pipes, but the windshield, the engine hood, and radiator of the car are broken.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
21	feb	Sabtu	28/Feb/2009	17:15	Field Area	Struck by/hit from rear	Heavy Vehicle	motorcycle	Contractor	On Saturday 28 February 2009 at 17:15, welding truck BM 8492 TB was on the way from Pelita GS to Duri REM office. Arrived at Pematang main road KM 14, the driver saw a motorcycle from behind wanted to take over the welding truck, at that time there was public vehicle pick up came from the opposite direction, but the motorcyclist still tried to pass the Welding Truck. The motorcyclist failed to pass the truck and hit the right body of welding truck, the motorcyclist fell down and suffered minor injury at the left hand and then immediately sent to the nearest hospital.
22	mar	Jumat	06/Mar/2009	8:30	Field Area	Running into Fix Object	Heavy Vehicle	single	contractor	On Friday 6 March 2009 at 08:30, Man haul Truck PT. SMM #2917 (BM 9307 DC) hauling 4 passengers was on the way from 3D-71 toward GS-5 negotiating Area-5 field via 3D-24. Approaching 3D-24/GS-5 intersection, on an up hill road, the driver stopped the truck to observe traffic but the truck moved back ward uncontrolled to left side of the road, hit road dike and tipped to its right hand side. No injury.
23	mar	Selasa	10/Mar/2009	10:15	Field Area	running off the road	Light vehicle	single	PT. X	On Tuesday 10 March 2009 at 10:15, a Company Car driven by PT. X Employee was on the way from PMT yard toward Catch Basin-10 and 11 DSF Field. Arrived at approximately 250 meters from the Catch Basin, the driver fell asleep for a moment, the vehicle turned right and went off the road to the swampy area. This resulted the front grill and inter-cooler of the vehicle got dented and its radiator leaked. No injury.
24	mar	Senin	16/Mar/2009	11:32	Public Road	Running into Fix Object	Light vehicle	single	contractor	On Monday 16 March 2009 at 11:32, AK Vehicle #059 driven by PT Adhi Karya employee was on the way from Duri to Location Kelok #53B. Arrived at KM#18 Tilan asphalt main road, the driver observed a public vehicle parked on the left lane, the driver slowed down and then tried to overtake. While doing so, there were 4 motorbikes coming from opposite direction with high speed. To avoid them, AK driver swerved to the right and hit pipe supports at the right side of the road. This resulted right front signal light broken, lower front bumper dented and pipe support broken. No injury.
25	mar	Kamis	19/Mar/2009	17:15	Field Area	other	Heavy Vehicle	single	contractor	On Thursday 19 March 2009 at 17:15 hrs, after completing job, PT SGN Prime Mover leaved location 4A-33. Arrived at approximately 400 m from the well 4A-33, PT SGN trailer was disconnected from the prime mover. This resulted front jack of the trailer got damage. No injury.
26	mar	Kamis	19/Mar/2009	10:45	camp Area	Struck by/hit from rear	Light vehicle	light vehicle	contractor	On Thursday 19 March 2009 at 10:45 hrs, Toyota Avanza BKL-884 was on the way from Patin Office towards camp area. The BKL -884 was on a complete stop at the Stop sign. A private vehicle coming from behind failed to stop and hit the BKL-884. This resulted the hatchback BKL-884 damage. No injury.
27	mar	Senin	30/Mar/2009	10:45	Field Area	Skidding	Heavy Vehicle	single	contractor	On Monday 30 March 2009 at 09:52, A dump truck driven by PT Sarana Baja Perkasa employee (Sub-contractor of PT TJE) was on the way from Laban Borrow Pit to Well Pad Area 12 Duri Field. Arrived at F5 NDD Area road, dump truck tried to turn right due to curve road but sliding and finally hit a guy wire anchor pile at road shoulder of road F5 on the left. This resulted the front side of the dump truck got damage while guy wire anchor pile broken. No injury.
28	mar	Selasa	31/Mar/2009	5:40	Field Area	running off the road	Light vehicle	single	contractor	On Tuesday 31 March 2009 at 05:40, after patrolling the area, Patrol Car, Ford Ranger BM 8475 AQ driven by PT Gardatama Nusantara employee was on the way from Tonggak 8 to K-9 office. Arrived at about 200 meters before Tonggak 8 intersection, the driver was sleepy and lost his control, the vehicle ran off the road to the right side into the bank of canal. The driver got off the car, then vehicle moved down and finally stopped at cutting tree. No injury.
29	Apr	Kamis	02/Apr/2009	14:00	Public Road	Sidesweep	Light vehicle	heavy vehicle	Contractor	On Thursday 02 April 2009 at 14:00, Ford Ranger BM 9636 TA driven by PT Adonara Bakti Bangsa employee was on the way from S.E. Libo 35 to Libo #05 after checking the area. Arrived at about KM 21 Libo Road, there was an outsider Truck parked in the right side of the road, Ford Ranger tried to pass the road and avoid the truck but hit the left front side of truck. This resulted the left fender of Ford Ranger got damage and its head lamp cracked. No injury..
30	Apr	Jumat	03/Apr/2009	16:45	camp Area	Struck by/hit from rear	Light vehicle	light vehicle	Contractor	On Friday 03 April 2009 at 16:45 hrs, KIA Sedona CHR 9774 was on the way back from Sibayak #136 heading to Terminal Sebangka Duri. Arrived at Medical main road before intersection Dempo #1, the driver failed to observe Kijang Inova BKL 10929 ahead which was parked on the road shoulder and sideswiped Kijang Inova. This resulted the front left-side of Sedona dented while the rear right-side bumper of Kijang got scratch and its mud guard damaged. No injury.
31	Apr	Rabu	08/Apr/2009	13:05	Field Area	running off the road	Heavy Vehicle	single	Contractor	On Wednesday, 8 April 2009 at approximately 13:05 hours a single MVC occurred near CGS 1 Duri Field involving crane working for PT Dimas Drillindo. The crane was moving from one work location to another to support well work rig activities. While approaching the bridge adjacent to the 4S road, the crane went off the road on the left side of the bridge, hit bridge safety guard, and rolled over into the canal. Road conditions at the time were dry and weather was clear. As a result of the MVC, the crane driver was injured. The crane signal man who was also riding in the cab, received limited injuries that required medical treatment and returned back to work for light duty.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
32	Apr	Minggu	12/Apr/2009	7:40	Public Road	Sidesweep	Light vehicle	light vehicle	Contractor	On Sunday, April 12, 2009 at 07:40 hrs, GN's Vehicle Mitsubishi Strada Double Cabin BM 8755 DD driven by Employee of PT GN was on trip to Bangko Camp for hand over after dropped his Co-Driver at KM 4 Balam. Arrived at KM 4 Balam (PKM 8300), there was another public vehicle came from Duri headed to Medan that was out from shoulder of the road and moved uncontrolled and hit right side of GN vehicle. After the crash, the public vehicle was lost control and moved to the right side of the road and jumped over PT. X 8" Shipping Line and finally hit a palm tree. GN Vehicle's right side body and side mirror got damage and right rear tire and velg broken. The public vehicle's front mirror and front body got damage. No injury.
33	Apr	Sabtu	18/Apr/2009	11:40	Field Area	Backing	Heavy Vehicle	motorcycle	company	On Saturday, 18 April 2009 at 11:40 hrs, Dump Truck 5 x 628 driven by PT BRE employee was on the way to Pungut #40 Borrow pit. After refilling fuel, the driver revised the vehicle, when moving backward the left hand front fender of dump truck sideswiped the existing concrete block (ex basepump) at the location. This resulted the front left fender and its left lamp broken. No injury.
34	Apr	Rabu	22/Apr/2009	10:40	camp Area	running off the road	Light vehicle	single	contractor	On Wednesday 22 April 2009 at 10:40 hrs, Daihatsu Grand Max BM 1024 QK driven by PT Glandys (Sub contractor of PT Indocater) employee was on the way to collect and deliver the clothes (Laundry) at Talang Complex Area. After passed the curve in front of DBQ Talang #229, the driver was intended to stop and push brake pedal but was unintentionally pushing the accelerator pedal; the vehicle was uncontrolled, ran to the yard and finally stopped after hit and broke the wall and window of DBQ Talang #229. This resulted front side of the vehicle dented, the broken wall and window struck a motor cycle which was parked inside. No injury.
35	Apr	Minggu	26/Apr/2009	11:55	Field Area	running into fix object	Light vehicle	single	contractor	On Wednesday, 26 April 2009 at 11:55 hrs, pick up (4x4 double cabin) BM 9247 TB driven by PT LBU employee was on the way from Beta office-Duri to Jorang GS to monitor, check rate and repair chemical injection pump. On the way from Jorang to ferry, there was a hole at a middle of road. when the driver tried to avoid the hole, the vehicle ran off to the right side of road and hit pipe support. This resulted the right back body of car damage. No injury.
36	May	Jumat	08/Mei/2009	11:15	Field Area	struck by/hit from rear	Heavy Vehicle	heavy vehicle	contractor	On Friday, 08 May 2009 at 11:15 hrs, Two Truba dump trucks were travelling from Kulin Borrow pit to Area 12. Approaching an intersection, the driver of the lead truck (TJE-N-3556-SPB) was intended to pull and stop at the left side of the road because the handphone rang, Dump truck (TJE-N-3586-SBP) behind failed to avoid the stopped truck and hit the rear of the front truck. This resulted damage to the truck. No injury
37	May	Jumat	08/Mei/2009	11:00	Field Area	hit rear of	Heavy Vehicle	heavy vehicle	contractor	On Friday, 08 May 2009 at 11:15 hrs, Two Truba dump trucks were travelling from Kulin Borrow pit to Area 12. Approaching an intersection, the driver of the lead truck (TJE-N-3556-SPB) was intended to pull and stop at the left side of the road because the handphone rang, Dump truck (TJE-N-3586-SBP) behind failed to avoid the stopped truck and hit the rear of the front truck. This resulted damage to the truck. No injury
38	May	Sabtu	09/Mei/2009	1:45	Field Area	running into fix object	Light vehicle	single	PT. X	On Saturday, 09 May 2009 at 01:45 hrs, night-shift PT PT. X employee was driving PT. X car 10 X 10277 Hilux Pick-up heading to WTP laboratory inside CGS5. He slightly turned car to avoid hole, but car was slipped and hit rail guard. This caused the front left body and lamp broken. No injury.
39	May	Minggu	10/Mei/2009	1:15	Field Area	struck by	Light vehicle	heavy vehicle	PT. X	On Sunday, 10 May 2009 at 01:15 hrs, night-shift PT PT. X employee was on the way from Balam field to Bangko camp to pick up his Smart Badge. Arrived at KM-11 Balam, he recieved information from Balam GS Sr. Operator that Balam South #145 was down, then he intended to go back. He turned his car in front of a Coffee shop. While doing so, there was a Fuso truck moved backward and hit left side of PT. X car. This caused the left side body of PT. X car dented. No injury.
40	May	Kamis	14/Mei/2009	13:35	Field Area	Backing	Heavy Vehicle	single	company	On Thursday, 14 May 2009 at 13:35 hrs, Company Fire Truck 10x7086 driven by Shift Captain BPN Fire Bekasap came from Filling station to Fire Bekasap. While Fire truck was backing to Fire Truck Shelter, the driver failed to observe the safe clearance behind, caused the right hand rear part of Fire Truck hit pole of fence gate. This resulted the right hand rear bumper and rear side body of Fire Truck dented while pole of fence gate the shelter got damage.
41	May	Minggu	17/Mei/2009	21:25	Field Area	Sidesweep	Heavy Vehicle	light vehicle	Contractor	On Sunday 17 May 2009 at 21:25 hrs, when Vacuum truck driven by PT ACS employee was leaving Rig ACS #01, it side swept company vehicle 22x10518 that was parked at the left side of Vacuum truck. This resulted the right side of front bumper company vehicle 22x10518 broken. No injury.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
42	May	Selasa	19/Mei/2009	14:30	Field Area	backing	Light vehicle	single	PT. X	On Tuesday, 19 May 2009 at 14:30, when Company Vehicle Ford Ranger -22X10703 which was driven by PT PT. X employee was trying to reverse, it hit "Safety Guard of Fire Monitor" at Test Station A-3 SW-1. This resulted rear body of the vehicle got dented, while Safety Guard of Fire Monitor got no damage. No injury.
43	May	Senin	25/Mei/2009	8:25	camp Area	Sidesweep	Light vehicle	single	PT. X	On Monday, 25 May 2009 at 08:25 hrs, a Company vehicle 21X10296 driven by PT PT. X Employee was on the way to Krakatau #161 to conduct house check and inspection. Arrived at intersection behind the house, the driver was intended to turn but failed to avoid and hit garbage guard. This resulted the left side of the vehicle got dented. No Injury.
44	May	Minggu	31/Mei/2009	14:45	Public Road	Sidesweep	bus	motorcycle	contractor	On Sunday, 31 May 09 at 14:45 BMP 9760 Bus was on the way from Rumbai to Duri. Arrived at KM 49 Minas – Duri Main road, there was upcoming vehicle from opposite direction which was unstable finally hit the rear right of Bus. This caused motorcyclist injured and plastic dashboard of the motorcycle broken.
45	Jun	Kamis	04/Jun/2009	7:00	Public Road	Struck by	Light vehicle	light vehicle	contractor	On Thursday 04 June 09 at 07:00 hrs, BKL 10935 was on the way from SSK-II Airport heading to Rumbai with houling passengers. Arrived at Siak Bridge I, the vehicle was strucked from behind by outsider vehicle. This caused the rear side of BKL vehicle dented. No injury.
46	Jun	Kamis	04/Jun/2009	16:00	Field Area	running off the road	Heavy Vehicle	single	contractor	On Thursday 04 June 09 at 16:00 hrs, a dump truck driver from KRS working on a CPM Environmental project to regreen the borrow pit around Area 6 junk yard ran off the road and overturned his dump truck. No one was injured. The driver is being sent to the PT. X clinic for drug and alcohol testing
47	Jun	Jumat	12/Jun/2009	12:35	Field Area	Roll-back	Heavy Vehicle	single	contractor	On Friday, 12 June 2009 at 12:35 hrs, Tandem truck of PT Deka Petrindo Corp was moving from Minas well 2A-82 to 6B-15E hauling a square tank. Arriving on an uphill field road in front of location 4A-25 the tandem's engine went off resulted the truck ran backward approximately 83 meters to the right lane and finally the truck tipped to its right side. Road condition was dry and good. Both of driver and swamper were wearing safety belt. This incident resulted front right windshield glass broken, right side door dented, and cabin roof dented. No injury.
48	Jun	Selasa	16/Jun/2009	0:20	Field Area	running off the road	Light vehicle	single	contractor	On Tuesday, 16 June 2009 at 00:20 hrs, Ford Ranger BM 8597 TD driven by PT SGJ employee was transporting 1 set Cup Packer Assemble (CPA) and 1 piece of safety join from tool house to well location 2D-63. After passed field road in front of security gate GS V Minas, the vehicle ran out of the road, slide down and finally stopped after hit 18" flow line. This resulted the front right side of the vehicle dented, no damage to the pipe. No injury.
49	Jun	Selasa	16/Jun/2009	10:40	Field Area	Backing	Heavy Vehicle	single	contractor	On Wednesday, 17 June 2009 at 10:40 hrs, Foco truck of PT Kaliraya Sari (KRS) was reversing in a parking yard near 4NE Test Station area 4 intended to go to 4 SW Test Station to drop fire extinguisher. While doing so, the driver was guided by a swamper that stood at the left rear side. While reversing, Foco truck driver failed to look at the right side causing the right end of front bumper hit left front fender of a KRS light vehicle which was in parking position. This incident resulted dented to the front fender of KRS light vehicle while no damage to the Foco Truck. No injury.
50	Jun	Minggu	21/Jun/2009	2:00	public road	running into fix object	Light vehicle	heavy vehicle	PT. X	On Sunday, 21 June 2009 at approximately 02:00 hours, a single MVC occurred in Libo area involving Company Vehicle Mazda pick up single cabin # 10042 driven by PT PT. X employee while travelling from Km 25 towards Libo Camp. Arrived at Libo main road KM 26, the vehicle was trying to avoid a truck from the opposite direction that was running in the middle of the road. Then the vehicle went off the road and hit the pipe support on the left side of the road. This resulted significant damage on the lower body of the vehicle (gear box system). The driver got a minor injury in his left eyes and brought to medical for further treatment.
51	Jun	Senin	22/Jun/2009	14:30	public road	Struck by	Light vehicle	light vehicle	contractor	On Monday, 22 June 2009 at 14:30 hrs, PT Gardatama Nusantara vehicle (Mazda BM 9212 AQ) was on the way from Jl Sudirman towards Gate #117. Arrived at Sudirman main road before intersection pokok jengkol, PT GN vehicle reduced the speed due to a pot hole in front, on the same time there was a private Toyota Kijang Inova intended to pass PT GN vehicle. While doing so, Toyota Kijang Inova hit rear side of PT GN vehicle resulted PT GN rear side dented and Kijang Inova engine hood dented. No injury.
52	Jun	Jumat	26/Jun/2009	18:03	public road	Sidesweep	Bus	heavy vehicle	contractor	On Friday, 26 June 2009 at 18:03 hrs, Inter District Bus BMP 9754 was on the way from Duri to Rumbai transporting 21 passengers. Arrived at KM 55 Duri-Rumbai Main Road, the Bus took over a Logging truck but the rear left side of the Bus side swept with the truck resulted the rear left side body of the bus dented and the front right bumper accessory of the truck broken. No injury



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
53	Jul	Senin	06/Jul/2009	2:50	public road	running into fix object	Light vehicle	single	contractor	On 6 July at 02.50 AM on vehicle of PT BCN North Bekasap Sector 2 ( BM 9791 TB) driven by Fahrizal # BCN-0034 arrived at Jembatan 3 , Bonai Village when in the middle of the bridge the ball joint of front left wheel was broken and resulting the vehicle could not be controlled and running to the left side of road and grazed pipe guard of the bridge . This resulted no injury to the driver and got minor scratch at the front left bumper
54	Jul	Rabu	08/Jul/2009	5:20	field area	running into fix object	Light vehicle	single	contractor	On Wednesday, 8 July 2009 at 05:20 hrs, after loading sand process completed at shop, Ford Double Cabin driven by PT Halliburton employee was escorting Dump Truck heading to location 6P-61A Rig HPS#01. Arrived at DSF Main Road, in front of Well 6T-30A, Ford Double Cabin ran off and hit the electric pole guard at the right side of the road. The driver got scratch on his left hand and received first aid treatment. This also resulted damage to the front side of the vehicle. Click here for picture related
55	Jul	Jumat	10/Jul/2009	11:30	public road	struck by/hit from rear	Light vehicle	motorcycle	contractor	On Saturday, 10 July 2009 at 11:30 hrs, after finished job on South Balam #134, Ford Ranger BM 8846 DF driven by PT IJP employee intended to go to Bangko Camp through public road. Arrived at KM 15 Balam public road, the driver decided to go back to South Balam #134 due to some pending issues. He made U-turn on the road but before he completed making U-turn, a private motorcyclist hit the vehicle from rear right side. This resulted damages to both vehicles. No injury to PT IJP driver while the motorcyclist had a broken wrist and some bruises on forehead and legs
56	Jul	Jumat	10/Jul/2009	19:00	public road	running into fix object	Light vehicle	single	contractor	On Friday, 10 July 2009 at 19:00 hrs, Pick up (4x4 single cabin) BM 9060 TB driven by PT LBU employee was on the way from Rantau Bais to Duri after finished refilling chemical, monitoring, checking rate and repairing chemical injection pump in Puncak, Pemburu, Batang, and Rantau Bais. Arrived at KM 9 Dumai-Duri main road, near Babinsa Building, the vehicle tried to avoid motorcycle which suddenly stopped in front, and hit Babinsa Building's fence with approximately speed 50-60 kph. This resulted the left front body of the vehicle got damage. No injury.
57	Jul	Rabu	15/Jul/2009	16:10	field area	Backing	Light vehicle	single	contractor	On Wednesday,15 July 2009 at 16:10 hrs, After finished the installation jobs of ESP units on Manggala#22, the driver take the vehicle to pick up the tools and load them into vehicle. He purposed to making reverse the vehicle by guided with a swamper but suddenly the vehicle hit the pipe support and causing small broken on rear signal light on the right side. No injury for this incident.
58	Jul	Rabu	29/Jul/2009	17:21	field area	head on collision	Light vehicle	motorcycle	contractor	On Wednesday,29 July 2009 at 17:21 hrs, Intel vehicle Ford Ranger BM 9075 TA driven by PT DMG employee was on the way from GS-V toward to GS-IV. Arrived at 5C-24 Minas field road, an outsider motorcycle came from opposite direction and hit the vehicle with head on collision. No injury to PT DMG's driver and passenger. PT DMG vehicle got major damage on the front right side.
59	Aug	Sabtu	01/Agust/2009	11:30	camp area	hit rear of	Light vehicle	heavy vehicle	contractor	On Saturday, 01 August 2009 at 11:30 hrs, after delivered lunch boxes at Kota batak Gathering Station, Kijang Inova BM 1866 FL driven by PT GDSK employee was intended to return to Petapahan Camp. Arrived at 10 KM Petapahan main road, in front of Flamboyan Market, Kijang Innova hit the rear side public truck. This resulted the front of Kijang Innova got damage. No injury.
60	Aug	Minggu	02/Agust/2009	8:40	field area	backing	light vehicle	motorcycle	PT. X	On Sunday, 02 August 2009 at 08:40 hrs, after attending daily tailgate meeting at Bangko Tool House, field operator PT PT. X drove Company Vehicle 22X9992 Mazda Pick Up to go to the field through Bangko GS. Arrived at the location, when the driver reversed the vehicle for parking, a public motorcycle came from Bangko Camp and hit the vehicle. This resulted the left front bumper of the vehicle damage, and its left front fender dented. The left knee of passenger of the motorcycle was injured.
61	Aug	Kamis	13/Agust/2009	12:30	field area	Backing	Light vehicle	motorcycle	contractor	On Thursday, 13 August 2009 at 12:30 hrs, Pick Up BM 8321 DD driven by PT Tridiantara Alvindo employee was on the way from Duri to Pungut GS to take GWP for job in Tandun 13. Arrived at Pungut intersection, the driver turned left, but knowing he took the wrong road direction, he turned back toward to Pungut GS by reversing the vehicle. While doing so, there was a motor cycle came in with high speed and hit the right front side of the vehicle. The motor cyclist was injured and brought to Permata Hati Hospital. This also resulted the right front side of the vehicle dented and motorcycle's shock breaker damage.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
62	Aug	Sabtu	15/Agust/2009	23:40	field area	Roll-back	Heavy Vehicle	single	contractor	On Saturday, 15 August 2009 at 23:40 hrs, during Rig moving process, Tandem Truck driven by PT HPS employee was on the way from Kotabatak#348 to Kotabatak#172 hauling a treating tank. Arrived at approximately 1 km from loc. KB-348, near field road location KB-03, while passing a slight curve Tandem Truck lost its balance and then tipped to its left side. The road was dry field road with slightly curve, and the weather was good. Both driver and swamper were wearing safety belt. This incident caused the left side of the truck dented and its windshield broken. No injury.
63	Aug	Selasa	25/Agust/2009	18:10	camp area	Sidesweep	Light vehicle	motorcycle	contractor	On Tuesday, 25 August 2009 at 18:10, after dropping passenger, Pregio BKL 11013 driven by PT BKL employee was on the way from Krakatau Complex to LPT Office. After passing Krakatau intersection, there was motorcycle came from Cendana High School direction and side swept with Pregio. This resulted the front left bumper of Pregio stretched, the motorcyclist fell down and was brought to PT. X Medical where his right knee received 7 stitches.
64	Aug	Kamis	27/Agust/2009	19:20	camp area	running into fix object	bus	single	contractor	On Thursday, 27 August 2009 at 19:20, a medium Bus RMJ 9830 driven by PT RMJ employee was assigned to transporting Rumbai Camp's resident for "Tarawih" praying at Mosque. Arrived at Flamboyan junction, during heavy rain, when trying to turn to the right, the bus hit empty drum which was put as a road divider. This resulted the front bumper of the bus dented. No injury.
65	Sep	Rabu	02/Sep/2009	15:00	field area	Backing	Light vehicle	light vehicle	contractor	On Wednesday 02 September 2009 at 15:00 hrs, a Truck Pusher of PT Mitra Unikatama was driving Ford Ranger BM 8501 DB to enter the location at Minas 7D-72E. While he was reversing to park the vehicle without swamper, the rear of vehicle side swept rear door of parked vehicle (PT PT. X vehicle - 22 x 10497). This resulted scratch and small dented on left door of PT. X vehicle and also scratch on the right rear lamp of MU vehicle. No injury.
66	Sep	Minggu	27/Sep/2009	5:10	camp area	running into fix object	Light vehicle	single	contractor	On Sunday 27 September 2009 at 05:10 hrs, Panther Station BM 1816 QA driven by PT Delta Metro Group (PT DMG) employee was on the way from Takuana to Apple Housing area for routine patrol and Guard Tour. Arrived at about 80 meters from Caddy Shack right curve, the driver lost control the vehicle and hit the Golf Course fence. This caused the front bumper of the vehicle got dented and the Golf Course fence got broken. No Injury.
67	Sep	Senin	28/Sep/2009	9:20	camp area	Sidesweep	Light vehicle	light vehicle	contractor	On Monday 28 September 2009 at 09:20 hrs, Pick Up TF 514 (BM 9992 AI) driven by PT Tripatra Flour employee was intended to go to location. When the driver started to move the vehicle, he did not realize that transmission gear was on reverse position and the door was half opened, the vehicle ran backward and the opened door sideswipe another vehicle TF 150 which was parked on the right side. This resulted the right side door of vehicle TF 514 got dented and fender of vehicle TF 150 slightly dented. No injury.
68	Oct	Kamis	01/Okt/2009	19:15	field area	head on collision	Light vehicle	Heavy vehicle	contractor	On Thursday 01 October 2009 at 19:15 hrs, LV Ranger OFS 5052 driven by PT SGN employee was on the way from location 3C-53 heading toward to base. During the journey, the vehicle got slip on muddy road at field-road and hit the right front side of an outsider truck which was on stop position on the right side of field-road and was at the opposite direction. This resulted the right side of Ford Ranger got dented. No injury.
69	Oct	Kamis	01/Okt/2009	21:20	field area	other	Light vehicle	Single	contractor	On Thursday, 01 October 2009 at 21:20 hrs, OFS 5022 driven by PT SGN employee was travelling to 2A-54. During the journey, the vehicle got stuck into landslide of water channel, the driver then decided to reroute due to traffic jam instead and went through field road access. Having moved approximately 200 meters, road condition was muddy, the driver saw a motor cycle in front which was in same direction was unstable, the driver tried to maneuver to right side of road and stop. While doing so, the road slope about 10-15 degree to right side, the vehicle stopped on the road with one right rear tires was off the road. When the driver was intended to start the engine, the front tire was slipped, and suddenly the ranger was 45 degree got stuck with back of cabin at lower side because the land at backside of ranger was dropped due to effect of water erosion. This caused damage to the ford ranger. No injury.
70	Oct	Jumat	02/Okt/2009	5:10	field area	running into fix object	Light vehicle	Single	contractor	On Friday 02 October 2009 at 05:10 hrs, during Rig Moving process HPS-9 from Tilan 11 to Pagar 14, Ford Ranger P/U BM 8609 TD driven by HES Field officer PT HPS was convoying Low bed and crane with speed 20 kph. Arrived at approximately 2 kilometers from Pagar Field, the vehicle hit left side bridge fence. This resulted front part of vehicle got dented. No Injury.
71	Oct	Selasa	06/Okt/2009	22:15	field area	Backing	Light vehicle	Single	PT. X	On Tuesday 6 October 2009 at 22:15, when company vehicle Ford Ranger - 22X10772 which was driven by PT PT. X employee was trying to reverse to park the vehicle, it hit a concrete cellar box at parking area Test Station A-10SC. This resulted the right rear body of the vehicle got dented, while the concrete cellar box got no damage. No injury.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
72	oct	Rabu	21/Okt/2009	6:10	public road	struck by/hit from rear	Light vehicle	heavy vehicle	contractor	On Wednesday, 21 October 2009 at 06:10 hrs, PT ABB vehicle driven by PT ABB shift leader with 2 passengers was on the way from Muara Basung to Duri. Arriving at main road Pekanbaru - Duri KM 111 near Muara Basung filling station, there was a broken public truck stopped in front at his lane. On the other hand, there were several oncoming vehicles at the opposite direction. PT ABB vehicle slowed down and stopped behind the broken truck and waiting for safe condition to pass the broken truck. Suddenly there was another public truck coming from rear side but could not stop and finally hit PT ABB vehicle and causing PT ABB vehicle were pushed 10.3 meters forward. This incident resulted dented to the rear side of PT ABB vehicle. No injury to both drivers.
73	Oct	Rabu	21/Okt/2009	13:30	public road	Sidesweep	Light vehicle	motorcycle	contractor	On Wednesday, 21 October 2009 at 13:30 hrs, Pick Up BM 9248 TB driven by LBU Technician was on the way from Pematang #57 heading to Pematang #13 to check injection point at that location. Approaching intersection to Pematang #13, the driver turned left to enter the well pad area, but at the same time a motorcycle coming from behind overtook the vehicle from the left side and then side swiped the LH front fender of Pick Up BM 9248 TB, caused the car got minor damage. There was no injury and no damage to motor cycle. The motorcycle run away right after the accident.
74	Oct	Senin	26/Okt/2009	14:10	Field Area	running off the road	Light vehicle	single	PT. X	On Monday 26 October 2009 at about 14:10, Mazda Station 9933 (BM 1114 DM) driven by PT PT. X employee was on the way from TDO Duri Shop toward Area 05 Road M6 Duri Field for conducting power line routine maintenance activity. Arrived at Area#6 Road R3 Duri Field, the driver was sleepy and lost control caused the vehicle moved to right side of the road and finally stopped at road dike. This resulted the lower side front plastic bumper got scratch and engine mud protector (plastic material) was broken. No injury.
75	Oct	Senin	26/Okt/2009	23:00	Field Area	Backing	Light vehicle	single	contractor	On Monday, 26 October 2009 at 23:00 hrs, one of PT SGN crew at KB-364 was driving a light vehicle to pick-up another crew from KB-117 in order to fill in shortage of crew requirement for working at KB-364. During the trip, he lost direction to the area around KB-148. When he tried to maneuver and slowly reversed the vehicle, it hit the pipe support behind it. This resulted the rear left car lamp broken and the rear left bumper got dented. No injury.
76	Oct	Rabu	28/Okt/2009	15:15	Public Road	running into fix object	Heavy Vehicle	single	company	On Wednesday 28 October 2009 at 15:15 hrs, a Mobil Crane 8 X 312 operated by PT MS employee was on the way from the pool base in KB-16 Yard to the job site in Lindai field. Arrived at about 100 meters from Suram and Lindai intersection, the top of the crane hit and cut a low voltage power line cable which was crossing the road (pole to house single line). This resulted the power line cut and the power pole bent. No injury.
77	Oct	Jumat	30/Okt/2009	14:49	Field Area	other	light vehicle	single	PT. X	On Friday 30 October 2009 at 14:49 hrs, when conducting patrol at Duri Field Area 10 in raining condition to identify cause of power outage at North Duri Feeder 1 before restoration of power, PG&T Vehicle 10755 driven by PT. X Employee got stuck on muddy road. The severity of vehicle damage is still being assessed. No injury.
78	Oct	Jumat	30/Okt/2009	17:05	Field Area	head on collision	light vehicle	motorcycle	PT. X	On Friday 30 October 2009 at about 17:35, a PT. X Ford Ranger 10314 (BM8374SA) driven by PT. X employee was on the way from 4D-64A well pad toward GS-5 after conducting well routine check. Around 4D-65 Area-5 Minas Field, approaching a curve about 75 feet, there was a motor cycle came from the opposite direction but took PT. X vehicle's lane. The driver of PT. X vehicle saw it and stopped on left hand side of the road but still the motorcycle hit PT. X vehicle. It was little rainy with good visibility. Road is 6 meters wide, hard, wet but not slippery. Police and security were on scene. The motorcycle rider was conscious, able to communicate normally and sustained fracture of his right leg bone under knee. The motorcycle rider was brought to PT. X clinic for treatment and then referred to RSUD Pekanbaru hospital. From the interview with the motorcycle rider, it was found that he did not have driving license and he rode the motorcycle without helmet.
79	Nov	Senin	09/Nop/2009	11:00	Field Area	Sidesweep	light vehicle	Heavy Vehicle	PT. X	On Monday 09 November 2009 at 11.00 hrs, a Dump Truck KRS CS 5117 (BM 9379 FM) driven by PT Kaliraya Sari employee was on the way from T5 Borrow-pit to Stock Pile Wonosobo #3. Arrived at intersection road 5, V5-49A Duri Field, the driver turned the steering to the right side, while a PT. X Terios Vehicle 21x10183 stopped at the Stop sign of the right side of intersection. When Dump Truck turned, it struck the front right body of stopped PT. X vehicle. This caused damage of PT. X vehicle (the front bumper broken, fender dented, right hand front light broken, and windshield crack). No injury.
80	Nov	Senin	09/Nop/2009	11:00	Field Area	Sidesweep	Heavy Vehicle	light vehicle	contractor	On Monday 09 November 2009 at 11.00 hrs, a Dump Truck KRS CS 5117 (BM 9379 FM) driven by PT Kaliraya Sari employee was on the way from T5 Borrow-pit to Stock Pile Wonosobo #3. Arrived at intersection road 5, V5-49A Duri Field, the driver turned the steering to the right side, while a PT. X Terios Vehicle 21x10183 stopped at the Stop sign of the right side of intersection. When Dump Truck turned, it struck the front right body of stopped PT. X vehicle. This caused damage of PT. X vehicle (the front bumper broken, fender dented, right hand front light broken, and windshield crack). No injury.
81	Nov	Minggu	15/Nop/2009	12:10	camp Area	running into fix object	light vehicle	single	PT. X	On Sunday, 15 November 2009 at around 12:10 hrs, during FO - HO Get Together celebration, a single MVC involving a PT. X car driven by a PT. X employee occurred at a parking area Kasuarina Park. The vehicle was moving out of the parking area and making a left turn, the driver failed to notice a 2 feet high pipe-guard on his left hand side. The vehicle side swept the pipe-guard and caused the bottom part of the left rear door of the vehicle got dented and scratch. No injury.
82	Nov	Kamis	19/Nop/2009	10:30	Field Area	head on collision	Heavy Vehicle	motorcycle	company	On Thursday 19 November 2009 at 10:30, a PT. X DT driven by PT Wahanakarsa Swandiri employee was traveling at ascending asphalt road in South Bekasap Area. Approaching a blind spot, the driver saw an outsider motorcycle with high speed took his lane. The DT driver blew his horn and stopped, but the motor cyclist kept moving and hit DT right front bumper. The motorcyclist was injured and brought to Permata Hati Hospital, his right leg was fracture. This also resulted the front bumper of the DT scratch and damage to the motor cycle.
83	Nov	Jumat	20/Nop/2009	8:30	Field Area	Sidesweep	Heavy Vehicle	light vehicle	company	On Friday, 20 November 2009 at 08:30 hrs, when Company Vacuum Truck driven by PT Cahaya Riau employee moved forward from parking area, the rear bumper of Vacuum Truck side swept PT GN Security patrol vehicle which was parking in Batang PSO. This resulted the front right bumper of PT GN Vehicle stretched. No injury.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
84	Nov	Sabtu	21/Nop/2009	12:05	Field Area	running into fix object	Heavy Vehicle	single	contractor	On Saturday, 21 November 2009 at 12:05 hrs, MS Dump Truck M-2009 driven by PT MS employee was intended to park at a slightly slope road with cabin position facing down. After shut off the engine and applied hand brake (not fully applied position), the driver came out of cabin. While the driver was walking away about 10 meters from Dump Truck M-2009, the Truck moved by itself and ran into a valley and finally hit a fence. This resulted the left mirror and front body of Dump Truck got damage. Its fuel hose leaking and fence of GS 4 broken. No injury.
85	Nov	Jumat	27/Nop/2009	16:05	Public Road	struck by	light vehicle	motorcycle	contractor	On Friday, 27 November 2009 at 16:05 hrs, IJP light vehicle driven by IJP employee with 3 passengers was on the way from location Sakti#07 (completed install junction box) to IJP Base. When IJP vehicle turned to the right from main road to enter IJP base, there was another private vehicle passed the IJP vehicle from left side. At the same time, there was a motorcycle tried to over take the private vehicle from left side, but since the private vehicle took the left side of the road motorcycle decided to pass from the right. At that point the motorcycle lost control and hit the IJP Vehicle which was already in front of IJP Base gate. No injury to IJP Driver but motorcyclist got first aid injury. This incident resulted minor damage on IJP Vehicle and motorcycle.
86	Nov	Senin	30/Nop/2009	12:07	camp Area	struck by/hit from rear	light vehicle	light vehicle	contractor	On Monday 30 November 2009 at 12:07 hrs, Taxi IOT BKL 21 X 10849 was on the way from Minas Clinic to MO #1 after dropping passenger in Minas Clinic. Meanwhile, PT RBS vehicle driven by PT RBS employee was on the way from WTP (after completed work) to take lunch break in FM Office Minas. Arrived at intersection clinic road Minas and Al-Fattah Mosque – MO#1 road, a private vehicle stopped due to Stop Sign and followed by IOT and PT RBS vehicle. When the private vehicle moved forward, both other vehicle did the same, and then IOT stopped due to Stop Sign but PT RBS vehicle did not anticipate this and hit the rear side of IOT. This resulted the rear side of IOT dented while PT RBS vehicle got no damage. No injury
87	Dec	Kamis	03/Des/2009	11:20	camp Area	Backing	Heavy Vehicle	single	contractor	On Thursday, 03 December 2009 at 11:20 hrs, a Garbage dump truck driven by PT ISS employee was moving backward to take out the garbage container. While doing so, the container support of its hydraulic dump steering hit the fence of Al Ittihad Mosque Rumbai. This resulted a slight broken on the fence while PT ISS dump truck got no damage. No injury
88	Dec	Rabu	16/Des/2009	8:00	Field Area	Sidesweep	heavy vehicle	light vehicle	contractor	On Wednesday 16 December 2009 at 08:00, a crew car SGJ #018 was on the way from location 5C-32 to Minas to drop the night shift crews. Approaching location 7D52, on the downhill road, there was a lowboy truck driven by PT MU employee came from opposite direction, the driver of crew car SGJ #018 then moved backward for about 5 meters and stopped near of a small ditch. The lowboy truck tried to pass the SGJ crew car, but the rear right body of lowboy truck side swept with the rear right of the crew car. This caused a slight scratched to SGJ crew car, while the lowboy truck had no damage. No injury.
89	Dec	Jumat	25/Des/2009	5:35	Field Area	struck by	Light vehicle	heavy vehicle	PT. X	On Friday 25 December 2009 at 05:35 AM, after checking location Rantau Bais #05, PT. X vehicle double cabin 22x10517 driven by PT. X employee, stopped at intersection Rantau Bais #05 prior to entering public road. Suddenly a public pickup truck moved backward from its garage on the right side of the road and it hit the right front side of PT. X vehicle 22x10517. This caused PT. X vehicle got damage (broken right hand headlight, flat tire, broken windshield, serious damage to front left body). The public pick up then run away. No injury.
90	Dec	Rabu	30/Des/2009	3:55	field area	running into fix object	Light vehicle	single	contractor	On Wednesday, 30 December 2009 at 03:55 hours, PT Bias Nusantara pick up vehicle driven by PT Bias Nusantara employee (HES Field officer) and accompanied by Tool pusher was on the way from rig TMMJ to borrow some tools toward Rig PT. X-84. Arrived at approximately 500 meters from intersection road Pukat 03 Bekasap Area, the driver fell asleep and caused the car hit the production line support on the left side of the road. This incident resulted damages to the left side front body of the car. No Injury.
91	Jan	Selasa	05-Jan-2010	17:20	public road	Strucked by/hit from rear	light vehicle	heavy vehicle	PT. X	On Tuesday 05 January 2010 at 17:20, PT. X Light Vehicles 22 x 10384 driven by PT. X employee was on the way to 5B Substation to open block of 115 KV 6D-5B Substation (as requested by SCADA Center). When arriving at KM 43 (Duri - Minas Public Road), driver of 22 x 10384 stopped the car at the curve as he saw a duck crossed the road. While doing so, an Outsider Tanker Truck struck rear side of PT. X vehicle. This resulted dented to rear body of PT. X vehicle. No injury.
92	Jan	Rabu	06-Jan-2010	07:10	public road		light vehicle	single	Contractor	On Wednesday 06 January 2010, at 07:10, PT BCN crew car driven by PT BCN Employee was on the way to drop security personnel BCN Bekasap Sector 2 to Posko 2 Pelita. Arrived at Rangau Main Road (near Siantar Canal), the vehicle passed flooded road. While doing so, the vehicle slipped into a damaged part of road and resulted front left bumper dented. No Injury.
93	Jan	Rabu	06-Jan-2010	16:27	camp road	sidesweep	heavy vehicle	single	Company	On Wednesday 06 January 2010 at 16:27, Fire truck 10 X 7084 driven by PT Budimas Pundinusa Employee was on the way back to Rumbai Fire Station after extinguished grass fire near forest "Hutan lindung" Sungai Ambang. When entering security gate Sungai Ambang, edge of the truck's water tank swept front roof of the security post. This incident resulted damaged to the roof (part of roof fell down) and no damage to fire truck. No injury.
94	Jan	Jumat	08-Jan-2010	13:10	camp road	sidesweep	Bus	single	Contractor	On Friday, 8 January 2010 at 13:10 hours, Bus ACS 9848 driven by PT ACS Employee was on duty to pick up 2 passengers from Al Fatah mosque to Minas Camp. When he approached Security gate Al Fatah Minas, bus' side body side swept the gate causing the rear RH body got dented. It was heavy rain when the incident happened. No Injury.
95	Jan	Rabu	13-Jan-2010	19:15	Public Road		Heavy Vehicle		Contractor	On Wednesday 13 January 2010 at 19:15 hours, Prime Mover with Trailer PM M-2006 hauling Excavator escorted by Pick Up MS 1076 was on the way from Ko-Pet toward Minas. Arrived at Km. 40 Minas-Duri Public down hill road, the escort car was hit from rear by Prime Mover and caused it ran off to ditch. This resulted front bumper of Prime Mover got scratch and Pick Up got severe damages to the front side and had to be towed from the scene. No injury.
96	Jan	Rabu	13-Jan-2010	19:15	public road	Struck by/hit from rear	Rig		Contractor	On Wednesday 13 January 2010 at 19:15 hours, Prime Mover with Trailer PM M-2006 hauling Excavator escorted by Pick Up MS 1076 was on the way from Ko-Pet toward Minas. Arrived at Km. 40 Minas-Duri Public down hill road, the escort car was hit from rear by Prime Mover and caused it ran off to ditch. This resulted front bumper of Prime Mover got scratch and Pick Up got severe damages to the front side and had to be towed from the scene. No injury.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
97	Jan	Kamis	14-Jan-2010	16:30	field road	Struck by/hit from rear	heavy vehicle	single	Company	On Thursday, 14 January 2010 at 16:30 hours, due to engine could not start, Metering Well Test (MWT) truck 7070 had to be pulled by MWT truck 7071 from Pematang #78 to Pematang salvage yard. Arrived at location near Pematang #31, the driver of the front truck saw there was electric cable hanging over the road. He stopped the truck to ensure the height of electric cable, meanwhile MWT truck 7070 failed to stop and hit rear side of MWT truck 7071. No injury.
98	Jan	Minggu	17-Jan-2010	00:55	public road	sidesweep	heavy vehicle	heavy vehicle	Contractor	On Sunday 17 January 2010 at 00:55 hrs, Rig carrier HPS#5 driven by truck pusher PT HPS was on the way from location DSF 6R-49A to location Cebakan # 8. At the same time, ACS low bed 26 X 9901 hauling Loading ram of Rig BN #05 was on the way from Pudu #31 to Pagar #41. When they arrived at KM 7 Rangau main road, Rig carrier HPS#5 side swept with ACS Low bed. This resulted walk way hangers which was carried by rig carrier HPS#5 broken and a pipe clamp circulating in the loading ram of ACS Low bed was bent. No injury.
99	Jan	Minggu	17-Jan-2010	00:55	public road	sidesweep	heavy vehicle	heavy vehicle	Contractor	On Sunday 17 January 2010 at 00:55 hrs, Rig carrier HPS#5 driven by truck pusher PT HPS was on the way from location DSF 6R-49A to location Cebakan # 8. At the same time, ACS low bed 26 X 9901 hauling Loading ram of Rig BN #05 was on the way from Pudu #31 to Pagar #41. When they arrived at KM 7 Rangau main road, Rig carrier HPS#5 side swept with ACS Low bed. This resulted walk way hangers which was carried by rig carrier HPS#5 broken and a pipe clamp circulating in the loading ram of ACS Low bed was bent. No injury.
100	Jan	Selasa	19-Jan-2010	14:00	field road	Running into Fix Object	light vehicle	single	Contractor	On Tuesday 19 January 2010 at 14:00 hrs, after completing survey stake out in Nella Field, a light vehicle PT Surveyor Indonesia was on the way to PT Surveyor Indonesia's Camp at Sedinginan. Arrived at approximately 400 meters before Test Station C Bangko field, the vehicle hit pipe support. This caused one of the passengers injured and was then brought to PT. X Clinic in Duri where he received stitches at his face and prescription medicine. This incident also resulted the right front tire broken, windshield broken, and the right side body of the vehicle got damage, the pipe was also damage for about 30 inch long. No oil spill.
101	Jan	Sabtu	23-Jan-2010	13:10	public road	striking rear of	heavy vehicle	heavy vehicle	Company	On Saturday 23 January 2010 at 13:10 hrs, after completing job at Rig Radiant #9, PT WKS Prime mover 6X384 (Low Boy) driven by PT WKS employee which was escorted by Pickup WKS#038, was on the way to Duri from Location Sebang #2. Arrived at KM 6 Balairaja main road, there was an outsider Logging truck came from the opposite direction, swerved to the right lane to avoid a motorcycle and hit the right front bumper of PT WKS Truck. This caused the front bumper of PT WKS Truck detached. No injury.
102	Jan	Minggu	24-Jan-2010	18:20	field road	sidesweep	light vehicle	motorcycle	Contractor	On Sunday 24 January 2010 at 18:20 hrs, PT Baker Hughes Indonesia (PT BHI) driver was traveling on a public road. Arrived at Benar by pass road, while he was turning to the right, the vehicle was hit by an outsider motorcycle on the right hand side. This resulted no injury to the PT BHI drivers while the motorcyclist got minor injury. This also caused rubber of front left bumper of PT BHI vehicle detached and head lamp of motorcycle broken.
103	Feb	Kamis	04-Feb-2010	11:00	camp road	Struck by/hit from rear	heavy vehicle	motorcycle	Company	On Thursday 04 February 2010 at 11:00 hrs, Vacuum Truck 10 x 718 was travelling from Rig # 07 Loc.6D - 83 after Supply Formation Water heading to PT. X WDR Yard. While the truck was crossing public road intersection in front of Alfatoh Mosque (near PT. X Gate I) and have entered road PT. X Gate and stopped wait command from Security gate and come from L/H side an outsider Motor Cycle hit the L/H rear Safety Mud of the truck. Resulting this accident the Motor Cyclist minor laceration on right leg and the passenger minor laceration on his L/H leg. And the victim brought to Puskesmas Minas for First Aid.
104	Feb	Kamis	04-Feb-2010	12:15	field	hit external object	light vehicle	single	contractor	On Thursday 04 February 2010 at 12:15 hrs, PT SMM double cabin vehicle driven by PT SMM employee was on the way from GS 1 to Warung Bata (6D-28) to have lunch break and rendezvous with another colleague who will bring Special Tools (Dial Indicator). 100 meters after vehicle entered dirt road towards 6D-39, vehicle slipped on a downward slope. Driver was unable to control the vehicle as the vehicle turned 180 degrees counter-clockwise and climb 2 pipes at the left side of the road. Vehicle rolled over and returned back on its wheels. It was raining at the time. This caused broken windshield, broken left windows and dented cabin. This also caused injury to one of the passengers. Injured person got 5 stitches on the forehead and was able to return to work at the same day.
105	Feb	Sabtu	06-Feb-2010	14:45	public road	running off the road	heavy vehicle	single	Contractor	On Saturday 06 February 2010 at 14:45 hrs, PT Rifansi Dump Truck #5015 driven by PT Rifansi Employee was on the way from unloading point (4Q35 Area 3) heading to Kulin #19 Borrow pit. He was approaching the borrow pit intersection when he felt sleepy. This caused the truck ran to the right side and sideswiped a gas pipe line resulting pipe line scratch and damage to the front right side of dump truck. No injury.
106	Feb	Minggu	07-Feb-2010	10:47	field road	backing	light vehicle	single	PT. X	On Sunday 07 February 2010 at 10:47 hrs, Morning shift operator drove a pool car G-336 from Pungut GS to Pungut # 27 to conduct routine check. He stopped at well pad Pungut # 27 to check chemical consumption. After checking the chemical he got into the car and started to drive the car forward +/- 2.5 meters. The operator decided to reverse the car due to muddy condition ahead. He did not realize there was barricade concrete block and hit it. This caused broken rear right bumper and broken signal lamp. No injury.
107	Feb	Senin	08-Feb-2010	14:45	field road	Running into Fix Object	heavy vehicle	single	Contractor	On Monday 08 February 2010 at 14:45 hrs, PT TJE Dump Truck #1261 driven by PT TJE Employee was on the way from Borrow pit km 0.5 Libo to Waduk Main Road. When entering Security Gate km 8 Libo, dump truck stopped for Security check and was waiting for instruction from the Security personnel. After Security personnel opened the gate, dump truck started to move forward. At the same time, the upper left of dump truck hit the gate while the dump truck was in forward motion. This resulted broken gate. This also resulted broken rotary lamp and left view mirror of dump truck. No injury.
108	Feb	Selasa	09-Feb-2010	13:53	public road	sidesweep	light vehicle	motorcycle	PT. X	On Tuesday 09 February 2010, at 13:53 hrs, PT. X Car 22 X 9973 driven by PT. X Employee was on the way from Balam GS to Public Coffee Shop at km 12 Balam for lunch. While the vehicle was turning right towards the shop, a public motorcycle came from opposite direction and hit left side of vehicle. This resulted left rear door of vehicle dented and front part of motorcycle broken. No injury to PT. X driver and passenger. Motorcycle driver (IP) got chin injury and the motorcycle passenger got minor injury. IP was sent to Medical Duri for further observation.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
109	Feb	Rabu	10-Feb-2010	17:40	public road	sidesweep	light vehicle	light vehicle	Contractor	On February 10, 2010 at 17:40, After conducting sonolog job at producer well Lampu #01, The Timas Sonolog crew who drove car # TS044 was on the way to Duri. Before Rangau # 22 Intersection, The driver saw an hole in the road then avoided it by turn right then back to the left position . He looked at to right mirror, saw the out sider drove vehicle so fast. Driver PT Timas took initiative to reduce his car then bring it to left side position to give car on behind can take over him, but the car on behind alway followed his car getting more closer. At Rangau # 22 intersection suddenly TS Car # 044 side swept by Tractor Nusantara Car.
110	Feb	Jumat	12-Feb-2010	08:55	field road	Strucked by/hit from rear	Bus	light vehicle	Contractor	On Friday, 12 February 2010 at 08:55 AM, MS Bus #8028 and PJP Minibus #014 were on the way from KM 125 Pick Up Point heading to job site hauling workers. Arriving at KM 125 main road, in front of Warehouse, the PJP minibus stopped due to some vehicles stopping ahead. After few seconds, MS bus coming from behind and hit the rear PJP bus. Resulting in damage to the RH and LH head lights of MS bus and dented to the rear bumper of PJP minibus. No Injury. Both drivers had been sent to PT. X Hospital for drug test.
111	Feb	Jumat	12-Feb-2010	08:55	field	Struck by/hit from rear	Bus	light vehicle	Contractor	On Friday, 12 February 2010 at 08:55 AM, MS Bus #8028 and PJP Minibus #014 were on the way from KM 125 Pick Up Point heading to job site hauling workers. Arriving at KM 125 main road, in front of Warehouse, the PJP minibus stopped due to some vehicles stopping ahead. After few seconds, MS bus coming from behind and hit the rear PJP bus. Resulting in damage to the RH and LH head lights of MS bus and dented to the rear bumper of PJP minibus. No Injury. Both drivers had been sent to PT. X Hospital for drug tes.
112	Feb	Sabtu	13-Feb-2010	11:30	public road	striking rear of	Bus	light vehicle	Contractor	On Saturday, 13 February 2010 at 11.30 hrs, an inter district bus services PT BMP was on the way from LPT Duri to Rumbal with 31 passengers. After passing Semunai bridge, there was a private vehicle in front of the bus. When the private vehicle was trying to pass truck in front of it, there was upcoming vehicle came from the opposite direction, the private vehicle was then slowed down, and moved back to the lane. While doing so, PT BMP bus hit the rear side of the private vehicle. This caused the back side of the private vehicle dented, and scratch on the front bumper of PT BMP bus. No injury.
113	Feb	Selasa	16-Feb-2010	08:30	field road	backing	light vehicle	single	Contractor	On Tuesday, 16 February 2010 at 08:30 hrs, at location Minas 6D – 94E, PT MU employee drove light vehicle and intended to park the car between pilling anchor and access control post (POB Board). Before reversing, the driver pushed horn three times and then moved backward with guidance from access control man. After vehicle on parking position, driver opened the door and observed the condition to make sure the car was on the right position without applying hand brake. At the same time, the car moving forward and side swept the pilling anchor guy line on its right side and caused the R/H rear body scratch and dented while cover of rear lamp signal crack. Condition of park area was not flat. No Injury.
114	Feb	Kamis	18-Feb-2010	09:55	public road	Strucked by/hit from rear	light vehicle	motorcycle	Contractor	On Thursday, 18 February 2010 at 09:55 hrs, a PT BHI vehicle driven by PT BHI employee with hauling one passenger was on the way from PT BHI base to PT. X Camp (OMO) at a speed of 20 km/h. Arrived at public road, Jl. Hang Tuah Duri, a motorcycle (A) that came from the opposite site at 30 km/h was hit by another motorcycle (B). As a result, motorcycle (A) lost control and went on the other side of the road and hit PT BHI vehicle on the front right hand side. Due to the sudden stop of the PT BHI vehicle, another motorcycle (C) collided with the PT BHI vehicle on the left hand side. Motorcyclists (B and C) left location immediately without stopping whereas motorcyclist (A) received minor injuries (first aid). This incident caused small damage to BHI vehicle and motorcycle (A). no injury for driver and passenger of PT BHI vehicle.
115	Feb	Minggu	21-Feb-2010	10:15	field road	Running into Fix Object	light vehicle	single	PT. X	On Sunday, 21 February 2010 at 10:15 hrs, after checking well 6U-30, a PT PT. X operator drove PT PT. X vehicle and went to Area 7 SW Test Station. He stopped the vehicle in front of the gate in parallel position to the fence and the engine was still on. He entered the test station to work. Approximately 5 minutes later, he went out and found the car already moved about 15 meter from the initial position, and hit signage. This caused damage in right mirror and scratched at the right door. No injury.
116	Mar	Senin	01-Mar-2010	09:15	public road	Strucked by/hit from rear	light vehicle	heavy vehicle	Contractor	On Monday 01 March 2010 at 09:15 hrs, a PT LBU employee drove pick up vehicle with speed 50 km/h and was on the way from LBU Office to LBU Warehouse to check stock of ammoniac removal. Arrived at Kulim KM 6, there were six vehicles convoyed and the LBU Vehicle was in fourth position. Suddenly, the vehicle which was in front of LBU Vehicle stopped so the LBU Vehicle stopped. While doing so, the LBU Vehicle was hit from the rear side by public truck and cased the LBU Vehicle moved forward and hit the vehicle in front. This incident caused machine cap of PT LBU vehicle and its rear side got damage. No injury.
117	Mar	Rabu	03-Mar-2010	13:00	field road	Running into Fix Object	light vehicle	single	Contractor	On 03 March 2010 we plan to moving RST job from 7L-51B to 6L-75B. Arrive on location 6L75B Bushes covering location and on top of wellhead there was a tree. We decide to do clean up by cutting the bushes and the tree to give us space for set up process. There are dense and tall bushes, which could not be seen what is beneath them by our eyes 3 meters from the wellhead. We are afraid there are bees or snakes and decide to glide those bushes with Ford 8005. When we move forward slowly we felt something underneath against the ford. We pull back the unit and we observe at glance and found small dent in the middle of ford. Two half cut 13-3/8 " Junked casing laying on the ground and hidden by bushes against the right bottom of fog light of OFS-8005. The right bottom plastic fender lamp was facing angle down,15 cm mark. We inform the event to Schlumberger dispatcher and Schlumberger Manager ( WSM did not get the report ). Based on our experiences in RST well, usually for observation well we just deal with bushes , trees and not level ground . In this case there were piece of junked casing had been put there and covered by dense bushes.
118	Mar	Kamis	04-Mar-2010	12:30	field road	backing	light vehicle	single	PT. X	On Thursday 4 March 2010 at 12:30, a PT PT. X employee drove a company vehicle to have lunch after conducting HMI and network cable work at HO AWT 11SQ. Arrived at KM 125 Duri, the driver tried to reverse the vehicle to park at Security parking lot but it hit a light pole. This incident caused damage to back door of the vehicle. No injury.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
119	Mar	Jumat	05-Mar-2010	15:30	public road	sidesweep	light vehicle	motorcycle	Contractor	On Friday, 5 March 2010 at 15:30 hrs, a light vehicle PT Truba Mandiri driven by PT Truba Mandiri Employee was on the way from Duri heading to Kulim Office. Arrived at KM 9 Duri, there was a motorcycle came from opposite direction that tried to overtake an outsider cargo truck. While doing so, the motorcycle hit the cargo truck and fell down then finally hit the front side of Truba Mandiri vehicle. This incident caused the right hand bumper of PT Truba Mandiri vehicle broken, and its right front and rear tires broken. This also resulted bad damage to motorcycle and the motorcyclist's right heel injured and got surgery from
120	Mar	Sabtu	06-Mar-2010	03:30	field road	hit external object	heavy vehicle	single	Contractor	On Saturday 6 March 2010 at 03:30, during rig MU-3 moving, a low-bed PT MU was travelling from location 3D-53N to location 8C-58N. Arrived at intersection entering field road, there was telephone cable that crossed the road with approximately 5 meters height. While passing the road, the rear of mud tank of low bed PT MU hit the public telephone cable and caused the cable cut off. No injury.
121	Mar	Sabtu	06-Mar-2010	11:45	public road	Strucked by/hit from rear	heavy vehicle	motorcycle	Contractor	On Saturday 6 March 2010 at 11:45, a Schlumberger water truck in route to Duri Field from the Schlumberger yard located in Duri Town was involved in an accident with a motorcycle in front of main gate DSF field - Duri. The motorcyclist was taken to Permata Hati Hospital in Duri for initial treatment and subsequently recommended for transfer to Eka Hospital in Pekanbaru for further treatment. When in route by ambulance to Pekanbaru the motorcyclist died as a result of injuries sustained from the accident.
122	Mar	Jumat	12-Mar-2010	08:10	field road	Running into Fix Object	bus	single	Contractor	On Friday 12 March 2010 at 08:10, An Inter District Bus Services BMP 9757 was on the way from Dumai to Duri with 22 passengers on board. While approaching the gate KM 128 Duri field which half gate opened, the battery cover on the right side of the bus was suddenly opened after passing bumpy road before the gate and sideswiped with the gate. This resulted in the battery cover was detached from the bus and dented while the gate was scratched. No injury.
123	Mar	Jumat	26-Mar-2010	09:50	field road	running off the road	light vehicle	heavy vehicle	Contractor	On Friday 26 March 2010 at 09:50 hrs, a field coordinator LBD who worked at TS Area-6/7N for fencing construction was driving CV Adelia Mandau Jaya vehicle heading to KM-125 to refuel the vehicle and other purposes. Arrived at location 2P-85A, LBD vehicle hit the rear side of MFE HO's contractor crane truck which was in sudden stop. This incident caused the right head light broken and machine cover of LBD vehicle got dented while the crane truck had no damage. No injury.
124	Mar	Jumat	26-Mar-2010	09:50	field	hit external object	light vehicle	Crane	Contractor	On Friday 26 March 2010 at 09:50 hrs, a field coordinator LBD who worked at TS Area-6/7N for fencing construction was driving CV Adelia Mandau Jaya vehicle heading to KM-125 to refuel the vehicle and other purposes. Arrived at location 2P-85A, LBD vehicle hit the rear side of MFE HO's contractor crane truck which was in sudden stop. This incident caused the right head light broken and machine cover of LBD vehicle got dented while the crane truck had no damage. No injury.
125	Mar	Senin	29-Mar-2010	17:40	field road	Strucked by/hit from rear	light vehicle	motorcycle	Contractor	On Monday, 29 March 2010 at 17:40 hrs, a PT DMG Patrol 4x4 Double Cabin driven by PT DMG employee was on the way from location 3A-65 toward to 3W-48 for conducting routine patrol. Arrived at around 1 km before location 3W-48, at downhill road and left blind curve, a public motorcycle came from the opposite direction, moved to patrol vehicle lane and then hit the left front bumper of patrol DMG. The motorcyclist then jumped into the patrol's windshield. This incident resulted the left foot of the motorcyclist injured and the left windshield of patrol vehicle cracked.
126	Apr	Rabu	14-Apr-2010	07:23	public road	running off the road	light vehicle	light vehicle	Contractor	On Wednesday, April 14, 2010 at around 07:23 hrs, there was motor vehicle crash happened at Bangko Area involving two Security Contractor Vehicles under PT Gardatama Nusantara (GN): Patrol A-3 and Patrol A-4. Both of them worked for night shift schedule. Each was driven by PT GN Employee with one passenger. After finishing patrol at Bangko field, Patrol A-3 was driving towards Bangko Camp for hand over. Before hand over at Bangko Camp, driver of Patrol A-3 was intended to go to GN Camp (500 m before Bangko Camp) to put his bag. On the other hand, Patrol A-4 (that already finished patrolling at Bangko Field) was on the way out of GN Camp (after put his bag) toward Bangko Camp for hand over too. When both vehicles arrived
127	Apr	Rabu	14-Apr-2010	07:23	public road	running off the road	light vehicle	light vehicle	Contractor	On Wednesday, April 14, 2010 at around 07:23 hrs, there was motor vehicle crash happened at Bangko Area involving two Security Contractor Vehicles under PT Gardatama Nusantara (GN): Patrol A-3 and Patrol A-4. Both of them worked for night shift schedule. Each was driven by PT GN Employee with one passenger. After finishing patrol at Bangko field, Patrol A-3 was driving towards Bangko Camp for hand over. Before hand over at Bangko Camp, driver of Patrol A-3 was intended to go to GN Camp (500 m before Bangko Camp) to put his bag. On the other hand, Patrol A-4 (that already finished patrolling at Bangko Field) was on the way out of GN Camp (after put his bag) toward Bangko Camp for hand over too. When both vehicles arrived
128	Apr	Sabtu	17-Apr-2010	06:30	public road	hit external object	light vehicle	Other	Contractor	On Saturday, 17 April 2010 at 06:30 hrs, Tool Pusher of PT DPC was driving DPC vehicle from Rig Bnt 72 toward Ampuh 08. Arrived at approx. 200 meters from GS after crossing Jorang, there were 2 buffalos at the road (one at left and one at right side of the road). While the DPC vehicle passing them, the buffalo at the left side suddenly turned his body toward the vehicle resulted the buffalo head hit left side mirror and broke it while the body hit left door of DPC vehicle and caused it dented. No injury.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
129	Apr	Selasa	20-Apr-2010	20:45	field road	skidding	heavy vehicle	single	contractor	On Tuesday, 20 April 2010 at 20:45 hrs, PT MU low bed was about to fill diesel fuel and load DP box. Low bed was pulled reversely into location by a bulldozer due to muddy and slippery condition. Approaching fuel tank, low bed hit guyline piling anchor. Driver did not see piling anchor and swamper's position was behind low bed. This incident caused broken front left body (wheel base/spark board). No injury.
130	Apr	Minggu	25-Apr-2010	15:30	public road	Strucked by/hit from rear	light vehicle	motorcycle	PT. X	On Sunday, 25 April 2010 at 15:30 PT. X car driven by PGPA employee was on the way to Dumai downtown to purchase some materials for final preparation of Dumai expo. Arrived at Jl. Baru, Dumai, while approaching the junction suddenly a private motorcycle approached the car from left-hand side in a very high speed. To anticipate accident, PT. X driver slowed down the car, but the motorcycle hit the car on its left side. The motorcyclist fell down and got injury at his forehead while the car got scratch on its left body with broken left-side rear view mirror and no injury to PT. X driver.
131	Apr	Jumat	30-Apr-2010	11:00	public road	Strucked by/hit from rear	light vehicle	motorcycle	Contractor	On Friday, 30 April 2010 at 11:00 hrs, MU light vehicle driven by MU employee was on the way out from the Drilling office into MU yard. Arrived at the Gate 2 Duri Camp intersection, the driver got a call from his colleague and asked him to pick up a master document of SOP at his house in Sebang. Driver then took a U-turn in front of Police Office Sector Mandau heading to Sebang. While doing so, a private motorcycle tried to pass the vehicle but side swept the right side of the vehicle causing the vehicle got dented while the motorcyclist fell down and got galling.
132	May	Sabtu	01-Mei-2010	07:55	public road	Strucked by/hit from rear	light vehicle	motorcycle	Contractor	On Saturday, 1 May 2010 at 07:55, BKL vehicle driven by BKL employee was on the way to Rantau Bais GS to deliver 2 PT. X employees. Arrived at KM 17 (in front of RM Ranah Minang), motor cycle was following from behind and when motorcycle tried to overtake BKL vehicle from right side, motorcycle's left handlebar side swept right door of BKL vehicle and then the motorcycle fell down. There was no injury. Foot stand of the motorcycle detached while BKL vehicle got 60 cm scratch at the door.
133	May	Kamis	06-Mei-2010	08:30	public road	sidesweep	light vehicle	heavy vehicle	Contractor	On Thursday, 6 May 2010, at 08:30 hours, PT DMG vehicle Double Cabin 4x4 driven by the Shift Leader was on the way to north area to deliver the morning shift crew to the Security post in the GS-6 Minas and KBJ through Public Main Road. Arriving in the midst of uphill road at 39 km there is a damaged truck parked on the road in front, then Shift Leader PT DMG decided to follow the other two vehicles in front that took the right lane to overtake the damaged truck. While doing so, another truck came from opposite direction and even though the driver of the damaged truck already gave sign to stop the truck but the truck still continued forward. This resulted the truck side swept right hand side of DMG Vehicles. This incident caused severe damage to the right side of DMG vehicle. No injury.
134	May	Minggu	09-Mei-2010	13:10	public road	Strucked by/hit from rear	Bus	motorcycle	Contractor	On Sunday, 9 May 2010, at 13:10 hours, OPE bus #9817 was on the way to Rumbai for additional bus assistance. Arrived at KM 55, the bus wanted to overtake a truck. At the same time, a motorcycle also wanted to overtake the bus. The motorcycle touched front side of the bus and fell down. Motorcycle rider was brought immediately to Flamboyan Clinic, Kandi to have first aid treatment. The motorcyclist then brought to PT. X Medical Duri. Based on PT. X Medical information, motorcyclist have bruises on chest and wrist, received pain-relieving cream and allowed to go home. This resulted OPE bus got 60 cm superficial scratch at the front right side.
135	May	Kamis	13-Mei-2010	22:22	field road	hit external object	heavy vehicle	Other	Contractor	On Thursday, 13 May 2010, at 22:22 hours, PT WKS amrol Truck 10X752 hauling swab tank was on the way from maintenance Minas to RIG 5 loc. Arrived at Road at Loc. 3D N-93 operators noticed the road was closed. The driver maneuvered backward in an attempt to find other road. While doing so the swab tank hit PT MS excavator which was parked at the location of the 3D-93N. This caused the right engine hood of the excavator dented. No injury.
136	May	Minggu	16-Mei-2010	17:10	public road	sidesweep	Bus	heavy vehicle	Contractor	On Sunday, 16 May 2010, at 17:10 hours, OPE bus #9821 was on the way from Duri to Rumbai. Arrived at KM 51, the bus followed public truck. While the bus was about to overtake the truck, back right tire of the bus fell into hole. This caused the left side mirror of the Bus touched the back side lock handle of the truck. Bus mirror cover was broken and the truck ran away. Bus continued the trip to Duri after repairing and installed temporary mirror in the rest of bracket. No injury.
137	May	Kamis	20-Mei-2010	07:00	public road	Strucked by/hit from rear	heavy vehicle	heavy vehicle	Contractor	On Thursday, 20 May 2010 at 07:00 hours, PT BMP van truck was on the way from Duri to Dumai. Van truck's position was behind a public truck. The public truck suddenly stopped, causing the van truck to hit the rear side of the public truck. This resulted front right side of van truck dented. No injury.
138	May	Minggu	23-Mei-2010	13:40	field road	backing	heavy vehicle	single	Contractor	On Sunday, 23 May 2010 at 13:40 hours, PT BN trailer was delivering second batch of 7" casing. The trailer was moving backward while being guided by swamper. Swamper's position was at the right back of the trailer. The driver was following swamper's guidance when the left front side of the bumper hit Sperry's pipe rack. This resulted trailer's bumper broken. No injury.
139	May	Selasa	25-Mei-2010	07:45	public road	Struck by/hit from rear	heavy vehicle	motorcycle	Contractor	On Tuesday 25 May 2010 at 07:45 hrs, Vacuum Truck PT Cahaya Riau was on the way to PT Cahaya Riau camp which located near Petapahan camp. When the truck turned right in order to come into the Cahaya riau camp, a motor cycle with one passenger, hit the truck on its rear side. The rear bumper of the truck dented. While, the rider and the passenger fell down to the asphalted road and got injured. They were then brought to the nearest clinic (Klinik Petapahan medika) and to PT. X Petapahan clinic for further treatment and finally were sent to Awal Bross hospital in Pekanbaru. The rider got 2 stitches on his head, 2 stitches under lower lip and 7 stitches on his lip, while the passenger was injured on the waist, no open wounds found on her body.
140	Jun	Selasa	01-Jun-2010	14:30	Field road	Hit External Object	heavy vehicle	single	Contractor	On Tuesday, 01 June 2010 at 14:30 hrs, PT ABC FOCO truck driven by PT ABC driver turned into 5B Substation area. While entering the gate ( without guidance from Swamper ) the FOCO truck touched the left side of the Fence Pole gate. Both driver and swamper heard the voice Krek and Swamper said STOP . They got off from the FOCO truck to see what happened. And found out that the left side of the flat bed touched the pole gate. Superficial damage to FOCO truck. Pole gate was bumped out of position but was able to be restored in original position.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
141	Jun	Senin	07-Jun-2010	04:55	field road	Hit External Object	heavy vehicle	single	Contractor	On Monday, 07 June 2010 at 04:55 hours, While PT Schlumberger logging truck was about to run Cement Bold Logging at well 5K38B, logging truck hit name plate of Plat Abandoned well 5K 38C. This resulted logging truck sparboard slightly broken and scratched. No injury.
142	Jun	Selasa	15-Jun-2010	12:40	public road	Strucked by/hit from rear	light vehicle	motorcycle	PT. X	On Tuesday, 15 June 2010 at 12:40 hours, PT PT. X employee was on the way from Rumbai to Petapahan to do weekly visit. There was a large hole on the road and the driver hit the brake. When he was slowly trying to get through the hole with car speed around 20 kph by steering to the right (still in his lane), a motorcycle with high speed came from the back and hit right door. This resulted broken right rear view mirror of the company car while the motorcyclist received stitches on his chin.
143	Jun	Sabtu	19-Jun-2010	06:20	field road	Running off the road	light vehicle	single	Contractor	On Saturday, 19 June 2010 at 06:20 hours, a PT DMG employee was on the way from location 8D-47E to location 8D-39E Minas Field for routine patrol. On the way, at uphill road, the driver fell asleep and did not realize that the vehicle moved to the right lane (the speed was around 27 kph), the co-driver then tried to warn him but it was too late, the two right tires were sink into the road ditch. This incident resulted damage to the front and right side of vehicle body. No injury.
144	Jun	Selasa	22-Jun-2010	18:07	public road	Unsafe act by other	Bus	heavy vehicle	Contractor	On Tuesday, 22 June 2010 at 18:07 hours, Inter District Bus PT BMP was on the way from Duri to Dumai. Arrived at Bukit Kapur (Rawa Pendek) truck intercooler coming thru from opposite direction. Bus stopped. While passing Inter District Bus, the truck side swept and caused the rear of the Bus scratched. No injury.
145	Jun	Rabu	23-Jun-2010	07:30	parking	sidesweep	light vehicle	Light vehicle	Contractor	On Wednesday, 23 June 2010 at 07:30 hours, a light vehicle of Schlumberger Operational driven by SLB driver planned to forward park between two vehicles (Halliburton Car at the left side and PT. X car at the right side). The driver turned the car right, however the turning was not enough to make it fit to the parking place. So he than reversed the vehicle and then moved the car forward-right while observing the left side of the car. While doing so, his car side swept PT. X vehicle on the right side. This incident resulted left rear sign lamp of PT. X vehicle broken and the right rear side of SLB vehicle got scratch. No injuries.
146	Jun	Rabu	23-Jun-2010	09:00	public road	Strucked by/hit from rear	Bus	Light vehicle	Contractor	On Wednesday, 23 June 2010 at 09:00 hours, Bus BMP was on the way from Rumbai to Dumai with 25 passengers. When approaching KM 58 due to water float at the downhill of that road, the Bus stopped to allow the bicycle and truck coming from opposite direction. Suddenly the Kijang was hit the bus from behind. This caused the rear bumper of the Bus scratch and Kijang was seriously damage.
147	Jun	Rabu	23-Jun-2010	08:25	public road	Running off the road	light vehicle	single	Contractor	On Wednesday, 23 June 2010 at 08:25 hrs, a light vehicle PT BKL 10944 was on the way from HCT CPS Office to Marine Office to deliver approved documents. While passing Jl. Putri 7 (in front of Pertamina Putri 7 Main Office), there was a GoI car passed over BKL 10944 on the right side. There was a flying rock from GoI car tire and hit the window glass of BKL 10944. This caused the glass cracked and broke the window glass. No injuries
148	jun	Sabtu	26-Jun-2010	14:15	public road	Strucked by/hit from rear	light vehicle	heavy vehicle	PT. X	On Saturday, 26 June 2010 at 14:15 hrs, After completing change out the Transformer at 7D-45 Minas Field, Transmission Distribution Operation Minas (TDOM) crews wanted to go back to TDOM shop at Minas Camp by driving PT. X Pick Up 22x10383. When approaching KM#31 (Schools complexes Minas) there was a broken truck stopped. The driver of Pick Up 22x10383 stopped the car about 15 meters behind the broken truck due to many cars coming from the opposite lane. Suddenly there was a Logging Truck from behind with high speed and not stable condition and the truck driver tried to stop the truck to prevent collision with PT. X vehicle but he could not do it due to the truck was very heavy (full loaded). The truck driver tried to turn the truck to the right but this resulted one of the wood (12" long) hit the rear right side of PU 22x10383. This caused rear right side of the PU 22x10383 was seriously damage and rear right side lamps broken. No injuries
149	Jul	Kamis	01-Jul-2010	07:30	field	Single	light vehicle	single	Contractor	A contractor motor vehicle crash occurred at NDD Area 12 at 7:30 pm on Thursday evening 1 July. A preliminary investigation report and drug test result are attached, with photos. Key preliminary information is summarized below:  Event: single light vehicle operated by Truba sub-contractor PT Trifa Abadi slid into a ditch at Road 3 in NDD Area 12.  Injuries: None.  Drug Test Result: Negative. Note that the report has not yet been authorized by a doctor. Both Dr Davis and Dr Koes are on leave and will return back to work on Monday 5 July 2010.  Vehicle damage: None. The vehicle can be driven after recovery from the ditch.
150	Jul	Selasa	06-Jul-2010	15:55	Parking/ Yard	sidesweep	light vehicle	light vehicle	PT. X	On Tuesday, 06 July 2010 at 15:55 hrs, PT PT. X Car 21 X 10177 driven by PT PT. X employee was moved out from the front yard of FM North parking lot Duri and sideswiped with private car which also moved out from the back yard of FM North parking lot. This resulted in the front bumper of PT PT. X car got minor dented while the left side door private car got scratched. No injury
151	Jul	Selasa	13-Jul-2010	07:45	public road		light vehicle	motorcycle	Contractor	On Tuesday, 13 July 2010 at 07:45 hrs, PT SMGG pick-up driven by PT SMGG employee was on the way from Simpang Padang to DSF Area. The vehicle was hit by public motorcycle from opposite direction when it was turning right into DSF Gate at km 125. The motorcyclist was trying to overtake another public vehicle which allowed PT SMGG vehicle to cross the road to DSF Gate. This resulted small dent at the bottom left side door of PT SMGG vehicle and wounds on motorcyclist's elbow and knees. Injured person was brought to BP Jemsi Clinic at Simpang Garoga and was later allowed to go home after receiving treatment.
152	Jul	Jumat	16-Jul-2010	00:15	field road	running off the road	heavy vehicle	single	Contractor	On Friday, 16 July 2010 at 00:15 hrs, Well Test Truck #10826 driven by PT OPE (Oriental Primasinerlgi Engineering) employee was at well 4C-55 Minas for well testing work. Due to rain, the test process was stopped and PT OPE employee then decided to go back to Takuana office. Arrived at intersection near location 4C-55 Minas, on the descent road, the driver turned the vehicle to the left but lost control of the vehicle. It ran to the left side of the road and finally stopped after hit cliff. This incident resulted the left front head lamp and door window of the vehicle broken and its left bumper and door dented. No Injury.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
153	Jul	Selasa	20-Jul-2010	09:30	public road	running off the road	light vehicle	single	Contractor	On Tuesday, 20 July 2010 at 09:30 hrs, comby station driven by PT BPN employee was on the way from Rumbai to Petapahan for crew shift change. The comby station passed with a truck which was coming from the opposite direction, at km 29 Rumbai-Petapahan road near Teacher Housing Complex, Minas. While passing, an unknown object ejected from the truck and hit the windshield of the comby station. This incident resulted the windshield of comby station broken. No injury.
154	Jul	Kamis	22-Jul-2010	10:30	field road	Head on collision	heavy vehicle	heavy vehicle	Contractor	On Thursday, 22 July 2010 at 10:30 hrs, PT SMM Foco Truck was on the way to area 4D-46A Minas to deliver Safety Cable Box. Arrived at 5D-15 area, in an uphill condition, a public truck was coming from opposite direction and took the right lane. PT SMM Foco Truck then tried to avoid collision by turning the wheel to the left, causing front tire of the vehicle ran off the road shoulder. The driver could not control the vehicle and it slid toward ravine about 3 meters depth. Vehicle's last position was laid to the left. No injury.
155	Jul	Kamis	22-Jul-2010	16:30	public road	running off the road	heavy vehicle	single	Contractor	On Thursday, 22 July 2010 at 16:30 hrs, Open Cargo truck 23 X 10775 driven by PT BKL employee was on the way back from Bangko to Duri. At Teluk Berembun the driver made over correction on steering wheel right after he run into portion of under construction road. This resulted the truck flipped upside down on the road shoulder. The front windshield of the truck was broken and the left side was scratched. No injury.
156	Jul	Kamis	29-Jul-2010	18:16	field road	backing	light vehicle	single	Contractor	On Thursday, 29 July 2010 at 18:16 hrs, after completing work at PT. X-hoist 101, a contractor vehicle driven by Dyfco Energy Technician intended to return to Base Camp. On the way, the driver stopped the vehicle at PT. X Hoist-100 to drop off his coworkers to check another job. While waiting his coworkers discussed, the driver decided to reverse and turn back direction at a T-intersection without any signalman. During the reverse movement, the driver only paid attention to left side because there was a bridge guard, the right rear wheel of the vehicle stepped into the edge of a ditch and caused the vehicle tipped to its right side. No injury.
157	Aug	Senin	02-Agust-2010	09:00	public road	running off the road	Bus	heavy vehicle	Contractor	On Monday, 02 August 2010 at 09:00 hrs, Bus BMP 9755 was on the way from Petapahan to Rumbai. Arrived at KM 60 the Bus stopped behind parked truck waiting for another truck which came from the opposite direction. When the Bus moved forward and trying to pass the parked Truck, another public bus from the opposite direction also moved and then side swiped with the BMP Bus. This resulted the rear right side deck of Bus BMP 9755 and public Bus got scratched. There was no injury reported.
158	Aug	Selasa	10-Agust-2010	15:55	public road	running off the road	light vehicle	single	Contractor	On Tuesday, 10th August 2010 around 15:55 PM, DMG's Mitsubishi Triton driven by Amri Gunawan #DMG-DKF-03.10.0201 of DMG Patrol (on duty hours) who taken hand phone charger from Fab Shop KM 125 and back to Sarang Nuri Base DMG Office WDR Transport KM 125 alone while the driver turn left into WDR transport in left position, the driver tried to get hand phone charger on dash board, but suddenly the left vehicle's body scratched the stone wall fence of gate WDR transport KM 125. Immediately Amri Gunawan tried to avoid collision by turning right his car but the tire position in the small ditch and couldn't move to right position. This accident caused left body of vehicle were dented and scratched. No injury on this MVC.
159	Aug	Jumat	13-Agust-2010	15:30	field road	running off the road	light vehicle	single	Contractor	On Friday, 13 Aug 2010 at 15:30 hrs, PT Timas pick up #045 driven by PT Timas employee was on the way from Pematang Bow field back to PT Timas yard. Arrived at main road Pematang Bow and Bekasap the car moved to the left side uncontrollable and hit pipe support due to driver's sleepy condition. This resulted major dented at the front bumper of PT Timas car and damages at grill and radiator parts. No injuries.
160	Aug	Senin	16-Agust-2010	08:35	field road	skidding	light vehicle	single	Contractor	On Monday, 16 August 2010 at 08:35 hrs, PT DMG vehicle driven by PT DMG officer was patrolling to Travo and Kran 13 Area 13 Duri Field. Arrived at Laban borrow pit Area 12 the vehicle slipped and fell into a ditch. This resulted left bumper dented and left headlamp broken. No injury.
161	aug	Senin	16-Agust-2010	05:45	field road	running off the road	light vehicle	single	Contractor	On Monday, 16 August 2010 at 05:45 hrs, PT DMG's Triton pick up driven by PT DMG Employee was on the way toward DMG security office at Tonggak 5 after conducting routine patrol. Arrived at main road jalan 5 Area 1, unintentionally the vehicle run on the left position and hit electric pole. This accident caused front side of vehicle got dented and scratched. No injuries.
162	Aug	Rabu	25-Agust-2010	14:15	camp road	running off the road	light vehicle	single	Contractor	On Wednesday, August 25, 2010 at 14:15 hrs, PT RSIM double cabin driven by PT RSIM employee was on the way from Lagoon to SPBU Hang Tuah Simpang Padang. Approaching Sibayak Main Road Curve (behind Sibayak #23 house), the driver felt sleepy and the car went to the left side of the road, hitting housing camp perimeter fence. This resulted major dent at the front bumper and engine hood. No injuries.
163	Aug	Kamis	26-Agust-2010	11:35	Parking/ Yard	Strucked by/hit from rear	Bus	light vehicle	Contractor	On Thursday 26 August 2010 at 11:35 hours, Bus ACS 9847 stopped on the parking area SMP Cendana Rumbai closed to the school gate to pick up students. There were also some vehicles which stopped in front of and on the right side of the Bus. When the Bus start moved forward and took over the stopped vehicle in front, the rear right side of Bus side swiped with front bumper of private sedan which also moved. This resulted in the rear right side of the Bus got superficially scratched and dented to the left front part of private sedan. No injuries.
164	Aug	Selasa	31-Agust-2010	11:55	public road	sidesweep	Light Vehicle	MotorCycle	Contractor	On Tuesday, 31 August 2010 at 11:55 hours, PT BKL light vehicle was on the way from Rumbai to Minas LPT. The vehicle stopped at Minas-Perawang intersection (Rumbai-Minas bypass road) and was about to move forward when it was hit by motorcycle from behind. This resulted scratch in the rear bumper of the vehicle and broken front plastic caps of motorcycle. No injury. <a href="#">Click here for pictures.</a>
165	Aug	Selasa	31-Agust-2010	15:30	Parking/ Yard	sidesweep	heavy vehicle	single	Contractor	On Tuesday, 31 August 2010 at 15:30 hours, PT BKL Prime Mover was unloading materials at Area #6 DSF Junk Yard Duri. While Prime Mover was maneuvering for unloading, Prime Mover hit another material. This resulted teared left door and broken left window. No injury.
166	Sep	Rabu	01-Sep-2010	12:35	Parking/ Yard	sidesweep	heavy vehicle	single	PT. X	On Wednesday, 01 September 2010 at 12:35 hours, after completing replacing reloser at 6E-23A Minas Feeder#6, Transmission Distribution Operation Minas (TDOM) crews wanted to go back to TDOM shop at Minas Camp. When entering PG&T TDO Minas Shop Polecat Truck hit sliding door. This caused front bumper of the Polecat was scratch and the sliding door dented. No injuries.
167	Sep	Jumat	03-Sep-2010	13:30	field road	Running off the road	light vehicle	single	PT. X	On Friday, 03 September 2010 at 13:30 hrs, PT PT. X vehicle driven by Operator Ampuh Bekasap FMT North was on the way from Ampuh # 25 to Pukat # 03. Arrived at road near Pukat #03 road the driver felt sleepy and the car went to the right side of the road, hitting pipe support. This caused front right bumper, radiator, vender, rear right tire and velg damaged.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
168	Sep	Senin	06-Sep-2010	11:25	Parking/ Yard	Strucked by/hit from rear	light vehicle	light vehicle	Contractor	On Monday, 06 September 2010 at 11:25, IOT PT BKL was on the way from FM Office to Bank Center Rumbai. Approaching Bakung Office yard, the driver saw someone waved him to stop the taxi then the driver slow down the taxi. While doing that, the taxi was hit from behind by private car driven by PT NIS Employee . This caused rear hatchback taxi and front bumper sedan dented. No injuries.
169	Sep	Senin	06-Sep-2010	11:25	Parking/ Yard	Strucked by/hit from rear	light vehicle	light vehicle	Contractor	On Monday, 06 September 2010 at 11:25, IOT PT BKL was on the way from FM Office to Bank Center Rumbai. Approaching Bakung Office yard, the driver saw someone waved him to stop the taxi then the driver slow down the taxi. While doing that, the taxi was hit from behind by private car driven by PT NIS Employee . This caused rear hatchback taxi and front bumper sedan dented. No injuries.
170	Sep	Rabu	08-Sep-2010	07:25	public road	Strucked by/hit from rear	light vehicle	light vehicle	Contractor	On Wednesday, 08 September 2010 at 07:25 hrs, PT BKL light vehicle was on the way from Minas to NBS Station. Arrived at KM-42 Minas – Duri public road, PT BKL vehicle stopped due to oncoming public bus took his lane while overtaking another vehicle. While doing so, PT BKL vehicle was hit from rear side by a private vehicle. This caused rear side of PT BKL vehicle got scratch while engine caps of private vehicle got dented. No injuries.
171	Sep	Minggu	12-Sep-2010	14:00	field road	skidding	heavy vehicle	single	Contractor	On Sunday, 12 September 2010 at 14:00 hours, PT RDP Truck were on the way from Penasa-06 to Pungut-41. The crew then decided to return to the Yard due to heavy rain. The truck slipped and struck pipe support near Intan GS. This resulted right headlight broken and right door dented. No injuries.
172	Sep	Selasa	21-Sep-2010	08:45	field road	sidesweep	heavy vehicle	heavy vehicle	Contractor	On Tuesday, 21 September 2010 at 08:45 hours, PT Rifansi Crane (8x282) driven by PT Rifansi employee was on the way to P3 Brassack for re-inspection. Arrived at road P6, Crane sideswiped with Dump Truck driven by PT Rifansi heading to km 125 Borrow Pit. This resulted R/H Fuel Tank, Fender and wheel of Dump Truck dented and front R/H signal lamp of Crane broken. No injuries. This incident will be recorded as two Motor Vehicle Crashes
173	Sep	Selasa	21-Sep-2010	08:45	field road	sidesweep	heavy vehicle	heavy vehicle	Contractor	On Tuesday, 21 September 2010 at 08:45 hours, PT Rifansi Crane (8x282) driven by PT Rifansi employee was on the way to P3 Brassack for re-inspection. Arrived at road P6, Crane sideswiped with Dump Truck driven by PT Rifansi heading to km 125 Borrow Pit. This resulted R/H Fuel Tank, Fender and wheel of Dump Truck dented and front R/H signal lamp of Crane broken. No injuries. This incident will be recorded as two Motor Vehicle Crashes
174	Sep	Selasa	28-Sep-2010	14:40	public road	Striking rear of	heavy vehicle	heavy vehicle	Contractor	On Tuesday, 28 September 2010 at 14:40 hours, PT ACS Trailer Truck was on the way from Duri to Dumat. Arrived at Rawa Pendek, the Trailer Truck was hit from behind by a public Cargo Truck who was also hit from behind by a CPO Tank Truck (multiple crashes). U96 No injuries to PT ACS crew but the accident resulted in the three occupants of the cargo truck sustaining non-life threatening injuries including broken feet to the two passengers and burns to the driver (from radiator fluid) and had to be hospitalized.
175	Sep	Rabu	29-Sep-2010	11:00	camp road	Head on collision	light vehicle	heavy vehicle	Contractor	On Wednesday, 29 September 2010 at 11:00 hours, PT BKL Inter-Office Taxi (IOT) hit the rear side of a Foco Truck. The IOT was on a journey from Drilling office to Talang parking lot. It lined up behind the Foco Truck (stop sign) at an intersection near Drilling office. The Foco Truck started to move forward but came to sudden stop to avoid hitting an incoming bus from the right side. IOT driver failed to stop the vehicle and hit the rear side of the Foco Truck. This resulted broken engine hood of the IOT. No injuries
176	Oct	Jumat	01-Okt-2010	06:40	public road	Strucked by/hit from rear	light vehicle	motorcycle	PT. X	On Friday, 01 October 2010 at 06:40 hours, PT PT. X vehicle driven by PT PT. X employee was on the way from Duri Camp to Batang Field. Arrived at Sawah Baru area (Jl. Sudirman KM 117 Duri), an incoming motorcycle was taking its right lane to overtake a vehicle in front of it, causing the motorcycle to hit the RH front fender of the PT PT. X vehicle. This resulted RH front fender of PT PT. X vehicle scratched while front fender and fork of motorcycle broken
177	Oct	Rabu	06-Okt-2010	15:45	field road	Strucked by/hit from rear	light vehicle	heavy vehicle	PT. X	On Wednesday, 06 October 2010 at 15:45 hours, PT PT. X vehicle driven by PT PT. X employee was on the way to TDO Shop. Arrived at jalan 5 Area 4 Duri Field intersection PT PT. X vehicle was hit by Tailgate Truck. The Truck was driven by PT Gametri Tirta Lestari employee. This resulted rear side of PT PT. X vehicle got dented and rear sign light broken. No injuries
178	Oct	Rabu	06-Okt-2010	15:45	field road	running off the road	heavy vehicle	light vehicle	Company	On Wednesday, 06 October 2010 at 15:45 hours, PT PT. X vehicle driven by PT PT. X employee was on the way to TDO Shop. Arrived at jalan 5 Area 4 Duri Field intersection PT PT. X vehicle was hit by Tailgate Truck. The Truck was driven by PT Gametri Tirta Lestari employee. This resulted rear side of PT PT. X vehicle got dented and rear sign light broken. No injuries
179	Oct	Kamis	07-Okt-2010	17:28	field road	sidesweep	Bus	Heavy Vehicle	Contractor	On Thursday, 07 October 2010 at 17:28 hours, PT WKS Bus was on the way from KM 125 barcoding drop point. Arrived at a narrow road near reservoir booster pump KM 125 the Bus sideswiped with PT Supraco Foco Truck that was coming from the opposite direction. This resulted rear right side of the Bus slightly scratched. No injuries.
180	Oct	Kamis	07-Okt-2010	17:28	field road	sidesweep	heavy vehicle	Bus	Contractor	On Thursday, 07 October 2010 at 17:28 hours, PT WKS Bus was on the way from KM 125 barcoding drop point. Arrived at a narrow road near reservoir booster pump KM 125 the Bus sideswiped with PT Supraco Foco Truck that was coming from the opposite direction. This resulted rear right side of the Bus slightly scratched. No injuries.
181	Oct	Rabu	13-Okt-2010	11:30	field road	Head on collision	Heavy Vehicle	MotorCycle	Contractor	On Wednesday, 13 October 2010 at 11:30 hrs, Foco Truck of PT Multistructure (driven by PT Multistructure employee) was on the way to Waduk GS. Arriving at 15 meters prior to Okasam field road intersection, there was a motorcycle from the opposite direction lost its balance and fell down. The motorcyclist fell down from the motorcycle while the motorcycle kept sliding and hit right front tire of Foco Truck. The motorcycle got severe damages while no damages to Foco Truck. The motorcyclist got injured and was brought to the nearest clinic.
182	Oct	Kamis	14-Okt-2010	10:30	public road	sidesweep	Heavy Vehicle	Heavy Vehicle	Contractor	On Thursday, 14 October 2010 at 10:30, Low boy unit of rig HPS-9 hauling rig office from Kotabatak towards Minas side swept with a Foco truck, SIC # 4 x 1163 (under REM team), at a bend road close to Kotagaro bridge. The side swept made the foco truck's RH rearview mirror broken. No damage on low boy. No injury.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
183	Oct	Kamis	14-Okt-2010	10:30	public road	sidesweep	Heavy Vehicle	Heavy Vehicle	Contractor	On Thursday, 14 October 2010 at 10:30, Low boy unit of rig HPS-9 hauling rig office from Kotabatak towards Minas side swept with a Foco truck, SIC # 4 x 1163 (under REM team), at a bend road close to Kotagaro bridge. The side swept made the foco truck's RH rearview mirror broken. No damage on low boy. No injury.
184	Oct	Senin	18-Okt-2010	07:15	Parking/ Yard	Head on collision	Bus	Bus	Contractor	On Monday, 18 October 2010 at 07:15 hours, PT RUI crew bus #74 was adjusting parking position in Patin Office parking area, Duri. Driver turned off the vehicle and took his foot off the clutch. The vehicle coasted in forward movement and hit another crew bus (#76) in front of it. This resulted crew bus #74's front side dented and crew bus #76's rear side broken. No injuries.
185	Oct	Rabu	20-Okt-2010	21:45	field road	Hit external object	Bus	Single	Contractor	On Wednesday, 20 October 2010 at 21:45 hours, PT HPS bus was adjusting parking position at Pematang #57. When the bus was maneuvering, the bus hit an eye pad of 1x1 box of material gasket. This resulted bumper PT HPS bus dented. No injuries.
186	Oct	Minggu	24-Okt-2010	10:02	field road	Head on collision	Heavy Vehicle	Heavy Vehicle	Contractor	On Sunday, 24 October 2010 at 10:02 hours, PT RDP Dump Truck was following PT MS Dump Truck from Borrow Pit Kulin 19 to 3H-53 and 4K-26. PT MS Dump Truck stopped at Road J2 West Boundary as a water spray tanker stopped in front of him to open discharge valves. PT RDP Dump Truck which was following the PT MS Dump Truck failed to stop and ran into the rear side of PT MS Dump Truck. This resulted dented windshield glass and frame, broken LH mirror and bracket, dented front bumper on PT RDP Dump Truck and bent rear cross on PT MS Dump Truck. No injuries.
187	Oct	Minggu	24-Okt-2010	10:02	field road	Strucked by/hit from rear	Heavy Vehicle	Heavy Vehicle	Contractor	On Sunday, 24 October 2010 at 10:02 hours, PT RDP Dump Truck was following PT MS Dump Truck from Borrow Pit Kulin 19 to 3H-53 and 4K-26. PT MS Dump Truck stopped at Road J2 West Boundary as a water spray tanker stopped in front of him to open discharge valves. PT RDP Dump Truck which was following the PT MS Dump Truck failed to stop and ran into the rear side of PT MS Dump Truck. This resulted dented windshield glass and frame, broken LH mirror and bracket, dented front bumper on PT RDP Dump Truck and bent rear cross on PT MS Dump Truck. No injuries.
188	Oct	Kamis	28-Okt-2010	11:45	field road	sidesweep	heavy vehicle	Heavy Vehicle	Contractor	On Thursday 28 October 2010 at 11:45 am RDP Dump truck 5159 parked at Kulin Borrow pit # 19 to get lunch, at that time RDP Dump Truck 5117 driven by Jento Panjaitan # 2068 that being backed his dump truck due to get lunch, he fail to anticipate dump truck RDP DT 5159 that park behind of him, and then hit the front side of the dump truck. Resulting is RDP 5159 wind shield, left hand signal and wind shield frame broken, no damage to RDP 5117. No injury to driver
189	Nov	Selasa	02-Nop-2010	10:59	camp road	hit external object	light vehicle	Single	PT. X	On Tuesday, 02 November 2010 at 10:59 hours, PT PT. X Pick Up 21x10302 (Pool Car) driven by PT PT. X employee was on area of Warehouse KM 125 Duri to take materials. When the vehicle was turning right after Godown #74, it strucked a concrete block on the roadside. This incident resulted teared front bumper (around 20 cm) of the vehicle. No injuries.
190	Nov	Kamis	04-Nop-2010	16:25	camp road	Head on collision	light vehicle	light vehicle	Contractor	On Thursday, 04 November 2010 at 16:25 hours, PT BKL taxi was on the way from Talang #28 to Duri Medical. It was tailgating a private car from "Tangki Putih" intersection to Merapi complex. The private car stopped in front of Merapi #34 and the taxi also made a full stop behind the private car. A motorcycle was coming from behind and hit the rear left side of the taxi. This resulted scratched bumper and broken rear LH lamp cover of PT BKL vehicle. No injuries.
191	Nov	Jumat	05-Nop-2010	16:40	field road	skidding	light vehicle	Single	Contractor	On Friday, 05 November 2010 at 16:40 hours, TF vehicle#129 driven by TF employee was on the way from Ampuh GS heading to South Bekasap GS. Approaching South Bekasap GS, the driver intended to pick up his paper work scattered in the cabin. While doing so, the steering drove to left uncontrolled and the vehicle hit existing pipe support at the left side of the road. This resulted headlight broken, front Bumper bent. No damage to pipe support. No injuries.
192	Nov	Sabtu	06-Nop-2010	05:10	public road	Running off the road	heavy vehicle	Single	Contractor	On Saturday, 06 November 2010 at 05:10 hours, PT Bias Nusantara Foco Truck was on the way from Pematang to Rangau for moving equipment Rig 71. Arrived at Jurong main road, the driver fell asleep and Foco truck run off the road and flipped over to the right side. This resulted the mirror broken and left hand door broken. No injuries.
193	Nov	Senin	08-Nop-2010	14:15	field road	Hit external object	heavy vehicle	Single	Contractor	On Monday, 08 November 2010 at 14:15 hours, Foco Truck MS was on the way from location 4S-18 A1 heading to 4P-68 road P5. Arriving at corridor intersection, the driver intended to turn right to the corridor. While turning right, the right hand middle side bed of truck touched electrical panel pole. This resulted the panel box dented and five well shut off. No injuries.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
194	Nov	Selasa	09-Nop-2010	11:00	Parking/ Yard	sidesweep	heavy vehicle	Single	Contractor	On Tuesday, 09 November 2010 at 11:00 hours, PT ACS Trailer Truck entered KM#125 Warehouse yard to unload casings/pipes. When the Trailer was turning left, it sideswept dike guard on the roadside. This incident resulted the guard broken and Trailer guard bent. No injuries
195	Nov	Jumat	12-Nop-2010	15:10	Parking/ Yard	backing	light vehicle	light vehicle	PT. X	On Friday, 12 November 2010 at 15:10 hours, PT PT. X car #10771 driven by PT PT. X employee was going to take materials from Warehouse KM 125. While backing up, the car accidently scraped the front left fender of a parked PT TJE car. This incident resulted damage to the back right signal cover of PT PT. X car and detached front left fender of PT TJE car. No Injuries.
196	Nov	Sabtu	20-Nop-2010	17:00	public road	Strucked by/hit from rear	light vehicle	MotorCycle	Contractor	On Saturday, 20 November 2010 at 17:00 hours, PT BCN vehicle driven by PT BCN employee was on the way from SE Libo #53 to SE Libo #18 for routine check. The vehicle was making a right turn at intersection SE Libo #18 when a public motorcycle came from behind and hit the vehicle's right door. This incident resulted vehicle's right door dented and motorcyclist was injured. The motorcyclist was brought to Libo Puskesmas KM 17 and got 4 stitches on his head. The motorcyclist was then referred to Ibnu Sina Hospital Pekanbaru for further treatment. No injury to PT BCN employee.
197	Nov	Selasa	23-Nop-2010	10:10	camp road	Strucked by/hit from rear	light vehicle	light vehicle	Contractor	On Tuesday, 23 November 2010 at 10:10 hours, PT BKL ICT driven by PT BKL employee was leaving Medical Duri area. The ICT stopped to give priority for another car which was coming from its left side. The ICT was hit by a private car coming from the rear RH side. This incident resulted scratched rear RH side body of ICT and scratched front LH side body of the private car. No injury.
198	Nov	Jumat	26-Nop-2010	15:00	public road	Head on collision	heavy vehicle	light vehicle	Company	On Friday, 26 November 2010 at 15:00 hours, PT PT. X Prime Mover driven by PT WKS employee was hauling Dozer from Lindai #28 Rig TA to Duri. Arrived at KM 83 Pasar Minggu main road, PT WKS Trailer hit Oplet (Public Transportation Vehicle). The Oplet stopped due to an overhead vehicle stopped because of a motor vehicle crash involving a public motorcycle and bus. This resulted rear body and glass of Oplet dented and no damage to the PT WKS trailer. No Injury and case under police investigation.
199	Nov	Selasa	30-Nop-2010	15:30	field road	Backing	heavy vehicle	Single	Contractor	On Tuesday, 30 November 2010 at 15:30 hours, PT WKS foco truck has just finished unloading scaffold materials in the wash tank construction area. The truck was about to leave the area but hit the fence behind while reversing. This resulted scratch in the rear bumper of the truck. No injuries.
200	Dec	Kamis	02-Des-2010	15:15	public road	sidesweep	Bus	heavy vehicle	Contractor	On Wednesday, 01 December 2010 at 15:15, PT ACS bus was on the way from Rumbai to Minas. Arrived at Jalan Perawang Minas near SMM Office the bus was sideswiped with logging truck that came from the opposite direction. This resulted glass mirror of PT ACS bus broken. No injuries.
201	Dec	Senin	06-Des-2010	12:45	public road	Strucked by/hit from rear	light vehicle	heavy vehicle	PT. X	On Monday, 06 December 2010 at 12:45 hours, PT PT. X vehicle was on the way from Petani Field to Duri. The driver stopped for lunch at Family Restaurant, KM 10 Bekasap – Rangau main road. When he was leaving the vehicle hit vacuum truck that was parked behind. This incident resulted broken rear L/H stop and signal lamps. No damage to vacuum truck. No Injuries.
202	dec	Kamis	23-Des-2010	10:00	public road	head on	light vehicle	motorcycle	PT. X	On Thursday, 23 December 2010 at 10:00 hrs, a company vehicle driven by PT. X employee was on work related journey passing Pematang main road KM-12. Arrived at the location, a motorcycle came from opposite direction but the driver lost his control than the motorcycle fell down on the road and his motorcycle slid toward R/H front bumper of PT. X vehicle that was already off the road. This incident resulted in slightly dented on R/H of PT. X's car. Motorcyclist got minor injury and was brought to nearest clinic.
203	Dec	Jumat	24-Des-2010	16:15	public road		light vehicle	light vehicle	Contractor	On Friday 24 December 2010 at 16:15 PM, motor vehicle accidents happened between cars of PT DMG Mazda Double Cabin with private car. The DMG car was on his way after refueling from a gas station in Km 8 to Minas, arrived in front of the GS II Minas, the DMG driver lose control so that his car hit the private car in front of him. This incident resulted DMG car's front/hood got dented while private car's back door glass broken and dented. No injuries.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
204	Dec	Rabu	29-Dec-2010	10:00	field		heavy vehicle	light vehicle	Contractor	On Wednesday, 29 December 2010 at 10:00 hours, an equipment operator of PT HP was operating SD Compactor from unloading spot at 9D-41 to under construction by pass road MR-26 Minas - Rumbal for compacting activity. Arrived at MR-26 by pass road (downhill and curve to the right), the operator lost control of the compactor and resulting the compactor finally ran to right side, off the road and hit an unoccupied parked Pick-up car of PT HP. To escape from this accident, operator jumped off the compactor and fell down to the ground. Both the compactor and unoccupied vehicle then descended the slope adjacent to the highway. This accident resulted in damaged to both vehicles. The operator was taken to outside clinic and received prescribed medication and then was sent to PT. X Medical Facilities for further observation. He then referred to Ibnu Sina Hospital and advised to have three days off. This incident is categorized and counted as one DAFW and one equipment damage.
205	Dec	Jumat	31-Dec-2010	16:55	public road	Struck by/hit from rear	light vehicle	motorcycle	Contractor	On Friday, 31 December 2010 at 16:55 hours, Rig HPS #08 escorted by HPS light vehicle was moving from Tandun #06 to Piala #03. Arrived at top hill, escort vehicle stopped due to seeing private motorcycles with high speed from the opposite direction. Apparently, one motorcycle side swept left hand wheel cover of escort resulted motorcycle slightly dented and wheel cover of Escort car got dented (20 cm).
206	Jan	Selasa	04-Jan-2011	09:17	Field Road	Hit external object	pick up	Single	Contractor	On Tuesday, 04 January 2011 at 09:17 hours, PT SMGG vehicle was on the way from Duri to Libo. Arrived at simpang pungut PT SMGG vehicle hit a pipe road guardrail. This caused front left the car body damage. No injuries.
207	Jan	Jumat	07-Jan-2011	14:30	Field Road	Struck by/hit from rear	Station	Motorcycle	Contractor	On Friday, 7 January 2011 at 14:30 hours, PT BCN operational vehicle was on the way from Pari Post to Bekasap GS. While entering parking lot Bekasap Gathering Station the vehicle was struck by a private motor cycle that came from rear side. This incident resulted scratch at front right door of BCN vehicle and damage at front body of the motor cycle. The motorcyclist got minor injury and was brought to the nearest clinic.
208	Jan	Senin	10-Jan-2011	07:05	Public Road	sidesweep	Bus	Heavy Vehicle	Contractor	On Monday, 10 January 2011 at 07:05 hours, PT ACS Bus was on the way from Rumbal to Duri. Arrived at KM#26 Rumbal - Minas Main road the bus side swiped with Public Truck. This incident resulted outer mirror of PT ACS bus broken. No injuries.
209	Jan	Senin	10-Jan-2011	14:35	Field Road	Hit external object	pick up	Single	PT. X	On Monday, 10 January 2010 at 14:35 hours, PT PT. X Car 21X10293 driven by PT PT. X employee was at CGS 3 to unload gravels. After that, the driver moved forward the vehicle to leave the area but at the same time the car hit the transformer safety guard. This incident resulted the bottom left door of PT PT. X car dented. No injuries.
210	Jan	Senin	10-Jan-2011	21:00	Field Road	running of the road	pick up	Single	PT. X	On Monday, 10 January 2011 at 21:00 hours, PT PT. X vehicle was on the way to BL#80. Arrived at Balam Field, the driver fell asleep and resulted the vehicle ran to the left side off the road and hit pipe support. This incident resulted front left lamp and fender of PT PT. X Vehicle broken. No injury
211	Jan	Selasa	11-Jan-2011	15:35	Field Road	sidesweep	Truck	Heavy Vehicle	Contractor	On Tuesday, 11 Jan 2011 at 15.35 hours, Foco Truck PT WKS was on the way from steam area 4 to area 8 yard. Arrived at Jalan 4 Intersection CGS-4 area-4, CV HM truck was coming from behind to overtake WKS Truck. While doing so, CV HM truck side swiped front right cabin of WKS Truck. This incident resulted damages to front fender and bumper of WKS Truck and scratch on CV HM truck. No injury. This incident is counted as 2 (two) Motor Vehicle Crashes.
212	Jan	Selasa	11-Jan-2011	15:35	Field Road	sidesweep	Truck	Heavy Vehicle	Contractor	On Tuesday, 11 Jan 2011 at 15.35 hours, Foco Truck PT WKS was on the way from steam area 4 to area 8 yard. Arrived at Jalan 4 Intersection CGS-4 area-4, CV HM truck was coming from behind to overtake WKS Truck. While doing so, CV HM truck side swiped front right cabin of WKS Truck. This incident resulted damages to front fender and bumper of WKS Truck and scratch on CV HM truck. No injury. This incident is counted as 2 (two) Motor Vehicle Crashes.
213	Jan	Sabtu	15-Jan-2011	16:30	Field Road	Hit external object	Lowbed	Single	Contractor	On Saturday, 15 January 2011 at 16:30 hours, PT DM lowbed was on the way from MU yard to Balam 0.0.37. When it was going to pass Simpang Benar, Lowbed hit overhead PLN electric cable that cross the road. This incident resulted the cable cut off. No injuries.
214	Jan	Minggu	16-Jan-2011	01:00	Camp Road	Hit external object	Lowbed	Single	Contractor	On Sunday, 16 January 2011 at 01:00 hours, PT MU lowbed was on the way from 8D-56N to 3D-11N, Minas. When it was going to pass security gate 5 Minas Camp, the lowbed was guided by swamper, transport foreman and security officer. Apparently, the lowbed hit the flowline while avoiding bad road condition on the right side of the road. This incident resulted damage on the lowbed's canopy. No injuries.
215	Jan	Jumat	21-Jan-2011	14:30	Camp Road	sidesweep	Station	Motorcycle	Contractor	On Friday, 21 January 2011 at 14:30 hours, PT MU light vehicle was on the way from MU yard to PT. X Security office at Duri Camp. Around 10 meters before the PT. X LPT roundabout, there was a private motorcycle came from opposite direction and side swiped the right side of PT MU vehicle. The incident resulted scratch at MU vehicle and bent on the brake pedal of the motorcycle. The motorcyclist got abrasion on left wrist.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
216	Jan	Minggu	23-Jan-2011	11:30	Public Road	Struck by/hit from rear	Station	Motorcycle	Contractor	On Sunday, 23 January 2011 at 11:30 hours, PT BMP light vehicle was on the way from Petapahan Camp to Duri. Arrived at KM 17 Semunai, Pinggir village the vehicle was overtaking other vehicle and at the same time a private motorcycle came from the opposite direction and collided with PT BMP vehicle. This incident resulted damages to both vehicles. The motorcyclist got injured and was brought to a clinic and then referred to Santa Maria Hospital, Pekanbaru.
217	Jan	Kamis	27-Jan-2011	15:00	Field Road	Skidding	Station	Single	Contractor	On Thursday, 27 January 2011 at 15:00 hours, Timas light vehicle driven by Timas employee was on the way from 4J-43A towards 7M-24A. Before entering location 7M-24A, driver stopped the vehicle for a while to see the road condition. The road condition was muddy. Then Driver continued to enter the location but after moving for 5 meters the vehicle slipped and was uncontrolled and finally hit a tank at road side. This incident resulted dented on engine hood. No injuries.
218	Jan	Senin	31-Jan-2011	07:30	Camp Road	Struck by/hit from rear	pick up	Motorcycle	Contractor	On Monday, 31 January 2011 at 07:30 hours, RDP vehicle driven by RDP employee was on the way from TF EX Training Office (after signing GWP) to RDP Ridging yard in Duri camp. Arrived in front of Old Main Office Duri, RDP Vehicle hit by Motor cycle from behind. This resulted front sign lamp Motor Cycle broken and no damage to RDP vehicle. No injury.
219	Feb	Kamis	03-Feb-2011	01:00	Public Road	Struck by/hit from rear	pick up	Heavy Vehicle	PT. X	On Thursday, 3 February 2011 at 1:00 AM Ford Ranger Double Cabin 22 x 10346 driven by Batang Field Operator was on the way from Batang GS heading toward Bukit Timah/Dumai Main road. Arriving at Batang intersection, the driver stopped his car at the left side off the road with the hazards light switched on. He asked his passenger ( security Batang GS ) to get out and check the pressure gauge at 36" trunk line, whereas he stayed on the driving seat. Suddenly, a public truck coming from behind hit 22x10346 from behind. The crashed caused both vehicles got damages. No personnel injury.
220	Feb	Jumat	04-Feb-2011	14:10	Field Road	Struck by/hit from rear	Truck	Heavy Vehicle	Company	On Friday, 04 February 2011 at 14:10 hours, PT. X Tailgate Truck 5x664 driven by GTL employee was hauling oily waste from CGS 10 to SMF Area 6. Tailgate Truck was following the DGI Bus. Arrived at road J-3 Area 10 Duri field, the DGI bus slowed down to stop at the left side of the road. Tailgate Truck which was following the DGI Bus failed to stop and hit the rear right bumper of the Bus. This resulted front side of tailgate Truck dented and rear right bumper of DGI Bus broken. No injuries.
221	Feb	Jumat	04-Feb-2011	14:10	Field Road	Struck by/hit from rear	Bus	Heavy Vehicle	Contractor	On Friday, 04 February 2011 at 14:10 hours, PT. X Tailgate Truck 5x664 driven by GTL employee was hauling oily waste from CGS 10 to SMF Area 6. Tailgate Truck was following the DGI Bus. Arrived at road J-3 Area 10 Duri field, the DGI bus slowed down to stop at the left side of the road. Tailgate Truck which was following the DGI Bus failed to stop and hit the rear right bumper of the Bus. This resulted front side of tailgate Truck dented and rear right bumper of DGI Bus broken. No injuries.
222	Feb	Sabtu	05-Feb-2011	11:15	Public Road	Struck by/hit from rear	Bus	Heavy Vehicle	Contractor	On Saturday, 05 Feb 2011 at 11:15 hours, OPE Bus 9820 was on the way from Rumbai to Dumai. Arrived at KM 15 Duri-Dumai Main Road, OPE Bus tried to over take CPO truck. At the same time the CPO tank truck moved to the right side and side swiped with the rear left side of OPE bus. This resulted scratch on the left front side of the OPE Bus. No injury.
223	Feb	Senin	07-Feb-2011	07:10	Field Road	sidesweep	Bus	Bus	Contractor	On Monday, 07 February 2011 at 07:10 hours, RDP Bus was on the way to FAB Shop KM 125 and Bus PJP was on the way to Bar-coding 125. Arrived at Bar-Coding Acces Road, the two Buses from different direction passed by and side swiped each other. This resulted right hand side mirror of RDP Bus broken and right hand top front glass PJP Bus broken. No Injury in the incident. This incident is counted as 2 (two) Motor Vehicle Crashes.
224	Feb	Senin	07-Feb-2011	07:10	Field Road	sidesweep	Bus	Bus	Contractor	On Monday, 07 February 2011 at 07:10 hours, RDP Bus was on the way to FAB Shop KM 125 and Bus PJP was on the way to Bar-coding 125. Arrived at Bar-Coding Acces Road, the two Buses from different direction passed by and side swiped each other. This resulted right hand side mirror of RDP Bus broken and right hand top front glass PJP Bus broken. No Injury in the incident. This incident is counted as 2 (two) Motor Vehicle Crashes.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
225	Feb	Minggu	13-Feb-2011	14:10	Field Road	head on collision	pick up	Motorcycle	Contractor	On Sunday, 13 February 2011 at 14:10 hours, PT BHI light vehicle was on the way from BHI base to well site Kopar # 04. Approaching a curve road in front of Petani Gathering Station, there was a motorcycle from the opposite direction taking the wrong lane of the road. Trying to avoid a collision, the BHI driver steered to the right and at the same time the motorcycle turned back to the same lane and both vehicles collided. Motorcycle rider was brought immediately to Duri Thursina clinic to have first aid treatment and finally were sent to Pekanbaru Hospital.
226	Feb	Selasa	15-Feb-2011	13:30	Public Road	head on collision	pick up	Heavy Vehicle	PT. X	On Tuesday, 15 February 2011 at 13:30 hours, PT. PT. X light vehicle driven by PT. PT. X employee was on the way from Petapahan to Minas Camp. Arrived at Km 36 after a curve road, there was a truck (truck A) stopped on the opposite lane of the road. While truck A was starting to move, there was another truck (truck B) trying to overtake truck A. The PT. PT. X vehicle trapped and hit by both trucks (truck A hit the right rear side and truck B hit the front side of PT. PT. X vehicle). This resulting damages on front side and right rear side of pickup and injuries to the pickup driver and passenger.
227	Feb	Kamis	17-Feb-2011	07:06	Field Road	Struck by/hit from rear	Station	Motorcycle	Contractor	On Thursday, 17 February 2011 at 07:06 hours, PT BKL light vehicle was on the way from Duri to Dumai. While queuing for entering DSF Gate-117 and at stop position (waiting for other vehicle moving) was hit by motorcycle from behind. This resulted rear bumper of PT BKL got slightly scratched. No Injuries.
228	Feb	Selasa	22-Feb-2011	09:30	Field Road	backing	pick up	light vehicle	PT. X	On Tuesday, 22 February 2011 at 09:30 hours, PT. PT. X light vehicle driven by PT. PT. X employee was on the way from office Kayangan toward Area 12. Arrived at intersection SU stand pipe road and Road 5, PT. PT. X car with other 3 cars (PT. PT. X car was on 2nd position of all 4 cars) stopped prior to entering road 5. The first car (box car) moved to road 5 toward Dumai direction followed by PT. PT. X car, but then stopped and suddenly moved backward because there were 2 buses planned to turn right from Dumai to SU road. Seeing the box car move backward, PT. PT. X Driver did the same thing, moving backward, unfortunately he failed to anticipated another car (drove by PT Karya Sumber Daya) behind. At the same time the driver of PT. KSD tried to move to right side to avoid collision but the incident still happened. As the result, right rear lamp of the PT. PT. X car broken and front left side of PT. KSD car dented. No injuries.
229	Feb	Selasa	22-Feb-2011	13:30	Public Road	Sidesweep	Station	Single	Contractor	On Tuesday, 22 February 2011 at 13:30 hours, PT SIC light vehicle driven by PT SIC employee was on the way from Petapahan to Kota Batak Yard 16. Arrived at Kota Batak 05 intersection, the car hit the small tree in right side of the road and finally sideswiped 8" pipe support of shipping line. This resulted right bumper and right body of PT SIC got dented. No Injuries.
230	Feb	Selasa	22-Feb-2011	16:45	Field Road	backing	Bucket Truck	single	PT. X	On Tuesday, 22 February 2011 at 16:45 hours, Bucket Truck PT PT. X driven by PT PT. X employee was on the way from Duri Field Area 6 (06-R5-16) to North Duri Area#10 (10-K6-19) to install transformer secondary cable and re-energize transformer. Arrived at Jalan 5, the driver decided to stop by at Staging Area-6 for Sholat Ashar. When he moved backward to park the Bucket Truck, the upper side of the truck hit the building structure. This resulted damaged to the bucket of the Truck. No Injuries
231	Feb	Senin	28-Feb-2011	11:15	Field Road	sidesweep	Polecat Truck	Heavy Vehicle	PT. X	On Monday, 28 February 2011 at 11:15 hours, PT PT. X polecat truck was on the way to Tilan Field. Arrived at Tilan Main Road, polecat truck was passing with tandem truck which was coming from the opposite direction. The polecat truck stopped to give the tandem truck a space. Unfortunately, outer part of the tandem truck touched the right back fender of the polecat. This resulted light scratch at the fender of the polecat truck. This incident is counted as 2 (two) Motor Vehicle Crashes.
232	Feb	Senin	28-Feb-2011	11:15	Field Road	sidesweep	Tandem Truck	Heavy Vehicle	Contractor	On Monday, 28 February 2011 at 11:15 hours, PT PT. X polecat truck was on the way to Tilan Field. Arrived at Tilan Main Road, polecat truck was passing with tandem truck which was coming from the opposite direction. The polecat truck stopped to give the tandem truck a space. Unfortunately, outer part of the tandem truck touched the right back fender of the polecat. This resulted light scratch at the fender of the polecat truck. This incident is counted as 2 (two) Motor Vehicle Crashes.
233	Mar	Rabu	02-Mar-2011	16:30	Field Road	Skidding	light vehicle	Single	PT. X	On Wednesday, 02 March 2011 at 16:30 hours, light vehicle PT PT. X was on the way from Teluk Berembun to Puncak 23 Catch Basin to deliver life jackets for Marine Environmental Protection crew. Arrived at Pemburu road, the vehicle slipped and hit the production line. This resulted scratch and dented to the vehicle.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
234	Mar	Rabu	09-Mar-2011	10:25	Public Road	head on collision	Station	Motorcycle	PT. X	On Wednesday, 09 March 2011 at 10:25 hours, light vehicle PT PT. X was on the way from jalan Hangtuah to PT. X Camp to inspect his job (repair fencing). Arrived at jalan Mawar and Seroja intersection, PT PT. X vehicle turned to the right heading to PT. X Camp. At the same time, a motorcycle coming from opposite direction and hit PT PT. X vehicle. The motorcyclist got injured and was brought to the nearest clinic. This incident resulted engine hood, lower bumper and radiator grill of PT PT. X vehicle broken and damage to motorcycle.
235	Mar	Kamis	10-Mar-2011	15:00	Public Road	head on collision	Station	light vehicle	Contractor	On Thursday, 10 March 2011 at 15:00 hours, light vehicle PT HPS was on the way from Bekasap #89 to Pematang #55. Arrived at KM #14 Pematang main road, PT HPS vehicle hit a PT Halliburton vehicle coming from opposite direction. This incident resulted right body of Halliburton dented and right defender and bumper PT HPS dented. No injury.
236	Mar	Jumat	11-Mar-2011	22:02	Field Road	Struck by/hit from rear	Mini Bus	light vehicle	Contractor	On Friday, 11 March 2011 at 22:02 hours, Light vehicle PT Sucofindo was on the way from Minas to Rumbai. Arrived at check point V By-Pass Minas-Rumbai, PT Sucofindo vehicle stopped for security check. At the same time PT DMG minibus came from behind and hit PT Sucofindo vehicle. This incident resulted rear windshields of PT Sucofindo vehicle broken and front bumper of PT DMG dented. No injuries.
237	Mar	Rabu	16-Mar-2011	04:30	Field Road	Struck by/hit from rear	Station	Single	Contractor	On Wednesday, 16 March 2011 at 04:30 hours, PT DMG vehicle (Patrol) was on the way from location 7D-78 Minas to Kampung Karo area for routine patrol. Arrived at around location 8D-24N Minas, PT DMG Patrollers saw one motorcycle entering location 8D-32. Patrol driver stopped his car for awhile and moved his vehicle backward to enter the location. When moving backward he failed to see a pipe support behind the car that caused the rear bumper hit the pipe support. No injuries.
238	Mar	Senin	21-Mar-2011	12:20	public road	Struck by/hit from rear	station	Light vehicle	Contractor	On Monday, 21 March 2011 at 12:20 hours, PT BKL Ambulance was on the way from Eka Hospital to Rumbai Clinic after hauling patient. Arrived at Jl Durian intersection, a public truck struck rear of a private vehicle resulted private vehicle also struck rear of PT BKL Ambulance. This incident resulted rear door of PT BKL got dented. No injuries.
239	Mar	Selasa	22-Mar-2011	07:30	Public Road	Struck by/hit from rear	Tandem Truck	Heavy Vehicle	Contractor	On Tuesday, 22 March 2011 at 07:30 hours, PT HPS Tandem Truck was on the way from Libo Camp to HPS Yard Duri after assisted moving Rig HPS # 04. Arrived at KM #8 Jl Raya Duri - Dumai, PT HPS Tandem Truck was hit by outsider vehicle from behind when the truck reduce speed to avoid stopped car in front of it. This incident resulted rear front side of public car dented. No injury.
240	Mar	Selasa	22-Mar-2011	14:40	Field Road	sidesweep	Rig	Heavy Vehicle	Contractor	On Tuesday, 22 March 2011 at 14:40 hours, PT. X Rig-04 operated by PT RUI was on the way from Balam 94 to WDR Yard Duri. Arrived at Ujung Tanjung bridge, the eyepad of driller consul (the wider part of the rig body) scratched side body of upcoming empty Balak Truck. This incident resulted a damage on eyepad of PT PT. X rig. No injury
241	Mar	Minggu	27-Mar-2011	07:45	Public Road	Struck by/hit from rear	Station	Motorcycle	Contractor	On Sunday, 27 March 2011 at 07:45 hours, PT DMG Patrol was on the way from Akasia Komplek to Minas Water Plan for routine patrol. While entering the main road the driver saw a motor cycle come from behind with left sign was on. When PT DMG vehicle moved forward a motor cycle hit the right side off PT DMG vehicle. This resulted a motor cycle rider and passenger injured.
242	Mar	Selasa	29-Mar-2011	10:05	Parking Lot	backing	Station	Single	Contractor	On Tuesday, 29 March 2011 at 10:05 hours, PT Halliburton light vehicle was on the way to park at Drilling Parking lot. When reversing, the driver stepped on the gas to give more power for front tire to pass the lot border (half pipe on ground). This resulted a sudden movement to vehicle and hit a pole behind. This incident caused cover of rear left side lamps broken. No injuries.
243	Apr	Kamis	07-Apr-2011	14:10	Field Road	Struck by/hit from rear	pick up	Heavy Vehicle	Contractor	On Thursday, 07 April 2011 at 14:10 hours, PT TF vehicle was on the way from Duri to Location Sang-Sam #01-Libo Area and RDP Dumptruck#5077 was on the way from Borrow Pit KM#2 Libo heading to Location Sang Sam#03. Arrived at Mandar field road with dusty condition, RDP Dump Truck stopped on the road to drop off a passenger (local people), meanwhile TF#510 following behind failed to anticipate and hit rear of stop RDP Dump Truck. This incident resulted radiator leaking and front bumper damage. No injury. This incident is counted as 2 (two) Motor Vehicle Crashes.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
244	Apr	Kamis	07-Apr-2011	14:10	Field Road	Struck by/hit from rear	Dump Truck	light vehicle	Contractor	On Thursday, 07 April 2011 at 14:10 hours, PT TF vehicle was on the way from Duri to Location Sang-Sam #01-Libo Area and RDP Dumptruck#5077 was on the way from Borrow Pit KM#2 Libo heading to Location Sang Sam#03. Arrived at Mandar field road with dusty condition, RDP Dump Truck stopped on the road to drop off a passenger (local people), meanwhile TF#510 following behind failed to anticipate and hit rear of stop RDP Dump Truck. This incident resulted radiator leaking and front bumper damage. No injury. This incident is counted as 2 (two) Motor Vehicle Crashes.
245	Apr	Selasa	19-Apr-2011	11:00	Public Road	head on collision	Trailer	Heavy Vehicle	Contractor	On Tuesday, 19 April 2011, trailer of PT BKL was on the way from Duri to Minas for hauling tubular pipe. At 11:00 hours the trailer arrived at an uphill road at KM 58 Minas - Duri, and following a loaded public truck. At that time the public truck slide backward and hit the trailer of PT BKL. This incident resulted damage to the front body and wind-shield of PT BKL Trailer. No Injury.
246	Apr	Kamis	21-Apr-2011	17:30	Field Road	head on collision	pick up	Heavy Vehicle	Contractor	On Thursday, 21 April 2011 at 17:30 hours, PT DPC work over rig light vehicle driven by HES field officer was on the way ffrom Kota Batak #350 to Kota Batak #356. About 50 mtrs prior Kota Batak #356 Intersection, driver fell asleep and the vehicle run to right lane and hit the oncoming palm truck. This incident resulted front right of PT DPC vehicle damaged and the palm truck tipped to its side. No injuries.
247	Apr	Jumat	22-Apr-2011	11:20	Field Road	Skidding	pick up	Single	Contractor	On Friday, 22 April 2011 at 11:20, PT Champion employee was on the way from 2A-63 to 4C Area for chemical injection. Arrived at location 4B-81, on a slightly up hill road, he saw a bad road condition in the middle of the road. and decided to drive closely to the left side of the road. While doing so, left front tire dropped to an open ditch and he failed to control the steering resulted vehicle rolled over 180 degree with top cabin at down position. No injuries. Click here for pictures
248	Apr	Senin	25-Apr-2011	14:20	Parking Lot	backing	Station	Heavy Vehicle	Contractor	On Monday, 25 April 2011 at 14:20 hours, PT DM loader was working to take a bucket for damaged tools. When moving backward the loader hit PT PT. X vehicle which parked at the work area. This incident resulted front of PT PT. X vehicle damaged. No injuries. Click here for pictures
249	Apr	Selasa	26-Apr-2011	22:40	Field Road	Skidding	Tandem Truck	Single	Contractor	On Tuesday, 26 April 2011 at 22:40 hours, PT ACS Tandem Truck was in process moving from 3E-0506B to 5M-68 hauling BOPE skid. Arrived at intersection 5M-67C road Tandem Truck PT ACS making left turn and flip over. No Injuries. Click here for pictures
250	Apr	Kamis	28-Apr-2011	10:30	Field Road	backing	Mini Bus	light vehicle	Contractor	On Thursday, April 28, 2011 at 10:30 hours, PT SPC mini bus moved backward after dropping crew in front of Security gate CGS10 hit a double cabin pick-up which parked 2 meters behind minibus whose driver and crew on access control process. The incident resulting small dented on pick-up and scratch on minibus. No injury
251	Apr	Kamis	28-Apr-2011	08:30	Camp Road	Struck by/hit from rear	Station	light vehicle	Contractor	On Thursday 28 April 2011 at 08:30. PTBKLVehicle was on the way from Sibayak #111 to Sibayak #114. rived at intersection Sibayak #114, a private vehicle hit PT BKL vehicle fr. No injuries
252	Mei	Senin	02-Mei-2011	11:30	Parking Lot	backing	pick up	Single	PT. X	On Monday, 2 May 2011 at 11:30 hours, PT PT. X vehicle driven by PT PT. X employee was working at 8D Substation. While moving backward from 8D area, PT PT. X vehicle hit the fence gate resulting rear right side of lamp cover broken. No injuries. Click here for pictures
253	Mei	Kamis	12-Mei-2011	11:20	Camp Road	Struck by/hit from rear	Station	light vehicle	Contractor	On Thursday, 12 May 2011 at 11:20, PT BKL Taxi was on the way from Nenas camp to Bank Center. Arrived in front of Rumbal Fire Station, PT BKL Taxi hit by Camp resident vehicle that was coming from opposite direction. This resulted dented on PT BKL Taxi. No Injuries
254	Mei	Senin	16-Mei-2011	20:50	Public Road	Struck by/hit from rear	pick up	light vehicle	Contractor	On Monday, 16 May 2011 at 20:50 hours, on the way from Pungut-10 to Pungut-36, Tool Pusher's Pickup of PT. BN was hit from behind by a public truck. The impact caused the pickup moved forward and hit another public truck in front of it. Tool Pusher's vehicle got damages both in front and rear side. No injury caused by this incident. Link to incident picture
255	Mei	Selasa	17-Mei-2011	09:15	parking lot	Backing	truck	Heavy vehicle	Contractor	On Tuesday 17 May 2011 at 09.15 hours, field mechanic of PT EJB Minor received a job to replace tire of 5x 456 at Darling Area. After completing all document and work preparation, he started driving his truck to location. While moving, left-mirror of his truck touched right-mirror of parked truck beside his truck resulting mirror of the parked truck damage. No injury. Link to incident picture



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
256	Mei	Kamis	19-Mei-2011	16:00	Public Road	Struck by/hit from rear	Combi	light vehicle	Contractor	On Thursday, 19 May 2011 at 16:00 hours, PT DM Combi was on the way from Pinggir to pick up Sleeving Crew at a public restaurant. Arrived at Samsam road, PT DM Combi stopped behind a public tanker truck when another public truck hit the vehicle from behind. PT DM vehicle was pushed forward due to the impact causing another collision with the stopped tanker truck. This incident resulting damages on the vehicle. No injuries. Click here for pictures
257	Jun	Jumat	03-Jun-2011	22:30	Parking Lot	backing	Bus	Bus	Contractor	On Friday, June 3rd, 2011 at 22:30 hours, Crew of PT Bias Nusantara was planning to take working equipment (bleeder pin and rubber doughnut) at Baung Office. When attempting reverse park, the bus hit the office's canopy. The impact resulted back windshield of the bus damaged. No injury.
258	Jun	Rabu	22-Jun-2011	22:10	Public Road	Struck by/hit from rear	station	motorcycle	PT. X	On Wednesday, 22 June 2011 at 22:10 hours, PT PT. X vehicle was driving by PT PT. X employee on the way to Pungut-38. At simpang Pungut, PT PT. X vehicle was hit by motor cycle from behind. This incident resulted the motocyclist got injured and rear right side lamp cover of PT PT. X vehicle broken . No injury
259	Jul	Sabtu	02-Jul-2011	16:20	Public Road	sidesweep	Bus	Heavy vehicle	Contractor	On Saturday, 02 July 2011 at 16:20 hours, two PT ACS buses were transporting passengers from Pekanbaru to Duri. At KM 43 Minas, there was an uncontrollable timber truck approaching from the opposite direction, to avoid more serious accident both bus drivers pulled up their buses and stopped on the road side. The accident was not avoided and the timber truck side swiped both buses. This incident resulted small dented and scratches on bus # 11264 and bus # 11265. No one injured on this incident.
260	Jul	Rabu	06-Jul-2011	11:30	Field Road	Hit external object	station	single	Contractor	On Wednesday, 06 July 2011 at 11:30 hours, PT Timas employee was on the way from well #5M22A to PT Timas office. Driver fell asleep during the travel resulting the vehicle run out off the road and hit pipe support on the right side. Vehicle's bumper was damaged. No injury. Click here for pictures
261	Jul	Jumat	08-Jul-2011	07:03	Public Road	Struck by/hit from rear	Bus	motorcycle	Contractor	On Friday, 08 July 2011 at 07:03 hours, PT RMJ bus was on the way to Rumbai Terminal. Arrived in front of terminal gate PT SMJ bus hit by Motor Cycle rode by Student. This incident resulted right hand of the motorcyclist scratched.
262	Jul	Jumat	08-Jul-2011	10:00	Public Road	Struck by/hit from rear	station	Heavy vehicle	Contractor	On Friday, 08 July 2011 at 10:00 hours, PT BKL's vehicle was on the way from Rumbai to Kandis. At KM 46, the vehicle was conveying with a public truck public in front and another station car behind. On a climbing road, the truck could not move forward and stopped in the middle of the road. PT BKL vehicle stopped behind the truck with a distance of approximately 9 meters. The truck was sliding backward, PT BKL vehicle was trying to take right side to avoid the accident, but did not proceed because another vehicle was coming from the opposite direction. The truck hit the BKL vehicle and resulted PT BKL vehicle moved backward and hit another vehicle that stopped behind PT BKL vehicle. This incident resulted engine hood PT BKL damaged. No injuries.
263	Jul	Selasa	19-Jul-2011	14:15	Parking Lot	sidesweep	station	light vehicle	PT. X	On Tuesday, 19 July 2011 at 14:15 hours, two units of PT PT. X double cabin was parking side by side at Balam GS. The driver side door of Car A was opened while the driver doing another activity on the cargo side of his vehicle. When Car B move forward to leave the parking lot, driver made immediate sharp turn to the right and hit the door of Car A. This Incident resulted scratches on the left rear side of Car B and the door hinge of Car A was broken. This incident counted as 1(satu) MVC. No injuries.
264	Jul	Selasa	26-Jul-2011	13:20	Field Road	Struck by/hit from rear	station	motorcycle	Contractor	On Tuesday, 26 July 2011 at 13:20 hours, PT CT vehicle drive by PT CT employee was on the way to 9D-12 Minas Area 2 for chemical injection. While PT CT vehicle entering an intersection to 9D-12 from public road, PT CT vehicle hit by motor cycle from behind. This incident resulted the motor cyclist got injured and right door of PT CT vehicle scratch
265	Jul	Selasa	26-Jul-2011	15:29	Field Road	Hit external object	Station	Motorcycle	Contractor	On Tuesday, 26 July 2011 at 15:29 hours, PT SGN vehicle drive by PT SGN employee was conveying Prime Mover 5039 - trailer#06 turned his steering direction to the left avoiding the head-on-collision with motorcycle from upcoming direction who took over his lane as the motorcyclist overtook the truck (Fuso-120PS) on a blind-spot curve. PT SGN vehicle turned to the left and hit the flow line's pipe support. This incident resulted damaged on front grill, engine and broken front glass window of vehicle PT SGN.
266	Jul	Sabtu	30-Jul-2011	13:30	Public Road	Other	Station	Single	PT. X	On Saturday, 30 July 2011 at 13:30 hours, PT PT. X vehicle was on the way to Pinggir GS. The vehicle was on KM 104 Duri-Rumbai main road, when a rock hit its windshield after passed by a truck. The windshield got damaged. Click here for pictures



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
267	Jul	Sabtu	30-Jul-2011	15:30	Public Road	Struck by/hit from rear	Trailer	Heavy vehicle	Contractor	On July 30.2011 at 15.30 hrs, MS Trailer PM1008-TR1001 was on the way from petani 01 heading to MS yard KM 8, the driver intended to park the equipment before go home. The outsider car tried to over taking the MS trailer, at the same time motor bike came from opposite direction, then outsider car driver swerved to the left and hit rear bed of the trailer. No damage to MS trailer and engine hood was dented to outsider car and also no injury to both drivers.
268	Agust	Kamis	18-Agust-2011	01:45	Field Road	backing	Station	Single	Contractor	On Thursday, 18 August 2011 at 01:45, PT. GN Patrol light vehicle got single MVC at 5B-15 area. After checking the NuFlow Meter, the driver intended to take a rest in that area. When vehicle moved back, the left front door hit ex-junction box. It caused the front left lower body of the car got dented. No one injured in the incident.
269	Agust	Sabtu	20-Agust-2011	15:18	Field Road	Hit external object	Station	Single	PT. X	On Saturday, 20 August 2011 at 15:18, PT PT. X Employee was on the way from Rig #7 to Wellwork office Minas. Approximately 300 meter from the WellWork office, vehicle run to the left side off the road and hit pipe support. This incident resulted front left lamp and fender PT PT. X Vehicle broken. The vehicle was not roadworthy after the crash. No injury.
270	Agust	Senin	22-Agust-2011	15:18	Public Road	sidesweep	pick up	Heavy Vehicle	Contractor	On Monday, 22 August 2011 at 15:18, PT SGN vehicle was on the way from location 4C-29 to Minas SPS Office. In the journey, PT SGN vehicle was hit by CPO tank truck that was coming from the opposite direction. The tank truck driver was trying to overtake the motorcycle on double curve road. PT SGNB vehicle recognized that hazard and tried to avoid collision by pulling over to left side. Before the body of vehicle got on the road shoulder, the rear right corner of the tank hit the rear right corner of PT SGN vehicle. No injuries
271	Agust	Selasa	23-Agust-2011	16:40	Public Road	Struck by/hit from rear	Station	MotorCycle	PT. X	On Tuesday, 23 August 2011 at 16:40, PT PT. X vehicle was on the way from BE-TA Office to Bekasap EOR. On the way to Bekasap EOR, two motorcyclists behind the PT PT. X vehicles were collided and one of the motorcycle hit rear of the PT. X vehicle. This incident resulted in the glass right rear lights broken and dented. No injuries
272	Agust	Senin	29-Agust-2011	06:30	Public Road	Hit external object	Station	Single	Contractor	On Monday, 29 August 2011 at 06:30 hrs, two DSMs were on the way from Petapahan Camp to Drilling rig site using a company's light vehicle. On public road just before Petapahan Gathering Station, there were 2 goats on right side of the road and as the car passes, one of the goats was crossing the road. DSM (Driver) tried to apply the brake, but there was not enough time and right side of bumper hit the goat. As the result, the car's right bumper was broken
273	Sep	Selasa	06-Sep-2011	12:30	Field Road	head on collision	Station	Heavy Vehicle	Contractor	On Tuesday, September 06, 2011, at 12:30 hrs, PT BCN LIBEK vehicle was heading to Aman GS after conducting routine patrol at Aman #02. While turning left at Titian intersection, it got collision with a public truck. The vehicle got serious damaged at front body. Fortunately, there was no injury for both parties.
274	Sep	Rabu	14-Sep-2011	16:57	Public Road	Struck by/hit from rear	Bus	Motorcycle	Contractor	On Wednesday, 14 September 2011 at 16:57, our Inter district Bus with 20 passengers on board was on the way from Rumbai to Duri. While approaching one curve road at KM 42, PT. X bus was struck on the rear part of the bus by a 3rd party motorcyclist coming from the opposite direction. IP was brought to local clinic immediately after the incident. Due to the severity of injuries, IP passed away at the clinic.
275	Sep	Minggu	18-Sep-2011	14:40	Public Road	sidesweep	station	light vehicle	PT. X	On Sunday, 18 September 2011 at 14:40, PT. X light vehicle was on the way from Pungut GS to Duri. Arrived at KM#119 Pekanbaru - Duri, public vehicle behind PT PT. X vehicle was intended to take over PT PT. X vehicle. At the same time a tanker car was coming from the opposite direction. The public vehicle got lost control and hit rear of PT PT. X vehicle. This incident resulted one passenger of public vehicle got injured and right rear the glass lights PT PT. X vehicle cracked.
276	Sep	Minggu	18-Sep-2011	14:45	Public Road	backing	station	single	Contractor	On Sunday, 18 September 2011 at 14:45, PT BCN crew was about to check GTS equipment at Catodic Facility Bagan Besar as part of their routine patrol. Driver parked his car near a rail guard. The handbrake was not fully pulled causing the car moved backward and hit the guard. The body was scratched.
277	Sep	Kamis	22-Sep-2011	15:30	Field Road	running of the road	Truck	Single	Contractor	On Thursday, 23 September at 15:30, a vacuum truck worked to help Production to suck oil at SBF GS 6 Minas. When the truck was moving on to suck oil at 2nd trip, its engine was shut-off at 30 meters from GS 6 fence (outside). A mechanic from WKS arrived to check the truck engine. Mechanic get into the truck to start up engine by activating gear and releasing the parking brake. The truck was glided, the engine was running for a moment then it shut-off again. The truck keep gliding, the brake was malfunctioned then the truck hit GS 6 fence. The truck still keep moving and stopped at loc 4B4C inside GS 6.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
278	Okt	Sabtu	01-Okt-2011	14:30	Field Road	backing	Station	Single	PT. X	On Saturday, October 1st 2011 14:30 PM, at location 4M-89A. While reverse parking, PT. X car slightly hit name plate pole of disposal well (on the edge of location) so that the car got minor dented at the backside of the car. No Injury.
279	Okt	Senin	03-Okt-2011	08:00	parking lot	backing	pick up	Single	Contractor	On Monday, Oct 3, 2011 at 8:00 AM, PT TJE's light vehicle intended to do reverse moving to take acytelline bottle that stored in the storage rack. During reverse moving, the driver is assisted by signalman. The soil condition was very wet after rain a night before. When the driver made reverse move about 3 meters, slowly the car slipped to the right and hit rear back side of foco truck that parked in the right side of the car. This incident resulted right rear side of the car had dented and signal light broken.
280	Okt	Kamis	06-Okt-2011	16:18	Public Road	Struck by/hit from rear	Bus	light vehicle	Contractor	On Wednesday, 06 October 2011 at 16:18 hours, Inter District Bus OPE-9807 was on the way from Rumbai to Duri and Dumai carrying 17 passengers. Arrived at KM 117 Kandis – Duri main road (near Balai Raja – Duri) the bus struck by a private car. This incident resulted front right body of the bus dented. No injury for bus passengers and the drivers. 1 passenger of private car was injured.
281	Okt	Kamis	06-Okt-2011	08:15	parking lot	backing	Station	light vehicle	Contractor	On Wednesday, 06 October 2011 at 8:15 hours, When the Security Patrol was driving backward for parking at Tool House Petapahan, the driver did not see another vehicle being stop behind and therefore hit that vehicle. Both vehicles got minor damaged. No injuries. This incident is counted as 2 (two) Motor Vehicle Crashes.
282	Okt	Kamis	06-Okt-2011	08:15	parking lot	Struck by/hit from rear	Station	light vehicle	PT. X	On Wednesday, 06 October 2011 at 8:15 hours, When the Security Patrol was driving backward for parking at Tool House Petapahan, the driver did not see another vehicle being stop behind and therefore hit that vehicle. Both vehicles got minor damaged. No injuries. This incident is counted as 2 (two) Motor Vehicle Crashes.
283	Okt	Jumat	07-Okt-2011	20:10	Public Road	sidesweep	station	Heavy Vehicle	Contractor	On Friday, 07 October 2011 at 20:10 hours, PT GN light vehicle was on the way from Posko 2 Minas to GN post at GS 6 and NBS. Arrived at KM-42, PT GN vehicle was behind two public trucks. At a hilly road, the truck in front of Security vehicle was taking over truck in front of it. The truck cannot move forward and retreat back. Light vehicle failed to avoid collision resulting minor dented at front side. Fortunate there's no injury.
284	Okt	Senin	10-Okt-2011	13:05	Public Road	Running of the road	Motor Cycle	Single	PT. X	On Saturday 29 October 2011 at 13:05 hrs, PT PT. X Employee was on the way from Dumai to Duri for attending one-week training by using his motorcycle. Arrived at Bukit Kapur public road, he tried to avoid another rider who suddenly appear to cross the road, and made him fell from his motorcycle. This incident resulted wound below the left ankle. This case was categorized Days Away From Work.
285	Okt	Rabu	12-Okt-2011	15:15	parking lot	Hit external object	Bus	Single	Contractor	On Wednesday, 12 October 2011 at 15:15 hours, Bus BMP-9755 was on the way from Rumbai to Dumai carrying 34 passengers of BP-Migas trainee. Arrived at HCT tank farm office BMP bus nudging garden boundary stone. This incident resulted left side of the trunk BMP bus dented. No injuries.
286	Okt	Sabtu	15-Okt-2011	11:40	Field Road	Struck by/hit from rear	Station	Motorcycle	Contractor	On Saturday, 15 October 2011 at 11:40 hours, PT GN vehicle Patrol was on the way from Kotabatak 96 to Kotabatak Selatan after conducting routine monitoring. Arrived at the intersection PTPN V, a motorcycle coming from the another intersection and hit PT GN vehicle. This incident resulted in motorbike riders fell and injured. Motorcycle rider was brought immediately to nearest clinic to have first aid treatment and were sent to Ibnu Sana Hospital Pekanbaru
287	Okt	Selasa	25-Okt-2011	14:30	Field Road	Hit external object	Rig	Single	Contractor	On Tuesday, 25 October 2011 at 14:30 hours, Rig MU-04 was on the way from Balam South N1-W1-86A to Rantau Bais O-W1-14A. When entering km 27 Balam South there was electric cable that crossed the road. While passing the road Low Bed Truck hit electric cable and caused the cable cut off. No injuries.
288	Okt	Jumat	28-Okt-2011	00:30	Field Road	Skidding	Station	Single	Contractor	On Friday, 28 Oct 2011 at 00:30 hours, PT SAS crew want install durabase at Rig BN-10 for second trip that before they already install 30 mats of 60 mats request. Arrived between main road and location there is a bridge with height around 45 degree. Upon entering the bridge rear of the car slip and leaned to bridge fence and causing tail light cover broken. No injuries.
289	Okt	Jumat	28-Okt-2011	06:45	Public Road	Struck by/hit from rear	Station	Heavy Vehicle	Contractor	On Friday, 28 October 2011 at 06:45 hours, PT BCN Patrol was on the way from IT Tower to Dumai Security office. Arrived at Jl Putri Tuju, PT BCN while doing U-Turn hit by a truck that will passing PT BCN vehicle. This incident resulted PT BCN vehicle damaged. No injury.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
290	Nop	Jumat	11-Nop-2011	14:05	parking lot	Skidding	pick up	Single	Contractor	On Saturday, November 11, 2011 at 14:05, PT DM vehicles intended to take piles of trash in Duri CPS. At the turn of the vehicle to the trash pile, the driver took direction too far to the left causing the vehicle skidded and crashed into the ditch. This incident resulted in damage to the front (bumper) of the vehicle. No one was injured as a result of this incident
291	Nop	Sabtu	12-Nop-2011	12:34	Public Road	Struck by/hit from rear	Station	MotorCycle	PT. X	On Saturday, 12 November 2011 at 12:34 Hours, PT PT. X vehicle drive by Bangko FMT employee was on the way from Mutlira to Sintong Gathering Station to take lunch. While entering Sintong Gathering Station, PT PT. X vehicle hit by motor from behind. This incident resulted the motor cyclist got injured, right door PT PT. X vehicle dented.
292	Nop	Rabu	16-Nop-2011	15:45	Public Road	running of the road	Lowbed	MotorCycle	Contractor	On Wednesday, 16 November 2011 at 15:45 hours, Lowbed stopped due to traffic queue on public road Duri, a motorcycle with two occupants came from opposite direction on the front left side, unknown to the Lowbed Driver and Swamper and stopped in front of Lowbed. The Motorcycle tried to make a right turn but couldn't due to traffic from opposite direction. The Lowbed moved slowly and pushed the motorcycle, causing passenger fell down to the left while the rider ok since he could stand, the passenger got bruise on her shoulder and got treatment in PT. X Medical
293	Nop	Sabtu	19-Nop-2011	07:05	Public Road	Struck by/hit from rear	Bus	Heavy Vehicle	Contractor	On Saturday, 19 November 2011 at 08:30 hours, Shopping bus PT RMJ was on the way from Pekanbaru to Duri. At KM 109 Balai Raja, it stucked due to traffic jams. At the same time, CPO tank truck was coming from the left side of the road pedestrian side swept the front left of PT RMJ Bus. This incident resulted PT RMJ Bus wind shield got crack, and LH bumper scratched. No injuries.
294	Nop	Minggu	20-Nop-2011	08:30	Public Road	Struck by/hit from rear	Station	Heavy Vehicle	Contractor	On Sunday, 20 November 2011 at 08:30 hours, PT GN was on the way from Petapahan to Suram GS. Arrived at KM 61 Suram, it was hit by public truck from behind after PT GN Vehicle over take the public truck. This incident resulted rear of PT GN vehicle dented. No injuries.
295	Nop	Senin	28-Nop-2011	14:50	Public Road	sidesweep	Pick Up	Heavy Vehicle	PT. X	On Monday, 28 November 2011 at 14:50 hours, PT PT. X vehicle driven by WW&C Employee was on the way from Rig Area to Petapahan Camp. Arrived at Flamboyan Market, PT PT. X vehicle stopped because of bad spot on the road. Public truck was coming from opposite direction and was trying to avoid bad road. When the truck took maneuver to avoid the bad roads, the truck swept PT PT. X vehicle. This incident resulted in a broken rear tail light on PT PT. X vehicle. No injuries.
296	Des	Kamis	01-Des-2011	15:25	Public Road	Struck by/hit from rear	Pick Up	Heavy Vehicle	Contractor	On Thursday 01 December 2011 at 15:25, PT PPE light vehicle was on the way from Libo field to Kotabatak S1-E1-33. Arrived at Kandi's main road PT PPE vehicle passing with public truck were coming from the opposite direction with lose control. PT PPE vehicle's driver tried to avoid but suddenly the palm truck hit the right side rear view mirror of PPE light vehicle. No injuries.
297	Des	Minggu	04-Des-2011	17:50	field Road	backing	Pick Up	Light Vehicle	Contractor	On Sunday, 04 December 2011 at 17:50 hrs, one of DS-07 crew drove a light vehicle and just arrived on location (Jorang Deep #1) after working on a permit extension. There was an empty parking space with another light vehicle on the left and the DSM car on the right. As the driver drove his car in reverse to park it between the two vehicles, it hit the DSM car. This incident resulted in DS-07's light vehicle having a broken right tail light and the DSM's car with a scratch on the left front bumper. No injury in this accident.
298	Des	Senin	05-Des-2011	03:30	Field Road	Hit external object	pick up	Single	Contractor	On Monday, 5 December 2011 at 03:30 hrs, a Truck Pusher was driving a light vehicle from Kokoh #1 to SE Libo#27 (transit Area) with a swamper sitting next to him. As he drove, the driver fell asleep, causing the light vehicle to swerve to the right and hit a pipe support. The light vehicle sustained damage on the front side and a leaking radiator. There was no injury.
299	Des	Jumat	09-Des-2011	09:30	Public Road	Struck by/hit from rear	Station	Motorcycle	PT. X	On Friday, 09 December 2011 at 09:30 hours, PT PT. X light vehicle driven by GPO Employee was on the way from Bekasap to Pematang Gas Plant. Arrived at KM 9 curved section of Bekasap public road, public motorcycle was coming from opposite direction and was trying to overtake public vehicle. The motorcycle lost control and sideswept the PT PT. X vehicle. This incident resulted in a scratch on the right door of PT PT. X vehicle. No injuries.
300	Des	Senin	12-Des-2011	09:30	Public Road	running of the road	Station	light vehicle	Contractor	On Monday, 12 December 2011 at 09:30, PT DM vehicle was on the way from Duri to Sam-sam for pipeline jobs. Arrived at Balairaja main road PT DM vehicle was convoying with other vehicles. Suddenly vehicle in front of PT DM was reducing speed and turn left, PT DM vehicles can not anticipate the situation and hit the vehicle. This incident resulted radiator PT DM vehicle leaks and right front bumper was dented. No one was injured from this incident.



MVA_no	month	day	date	time	general location	mvc_type	vehicle_id	opposite vehicle	Vehicle owner	description
301	Dec	Jumat	16-Dec-2011	09:50	Camp Road	sidesweep	Bucket Truck	light vehicle	Company	On Friday, 16 December 2011 at 09:50 hours, a bucket truck heavy equipment (Manitou) was on the way from FM Maintenance to KM-06. After intersection of Iksora complex, the Manitou was followed by three vehicles while one of outsider vehicle over took and side swept Manitou front bucket. This incident resulted outsider vehicle dented. <a href="#">Click here for pictures</a>
302	Dec	Rabu	21-Dec-2011	10:00	Public Road	Struck by/hit from rear	pick up	Light vehicle	Contractor	On Wednesday, 21 December 2011 at 10.00 hours, one of PT Tripatra Fluor (TF) light vehicle was involved in a MVC with a public vehicle. The light vehicle was from TF Main Office toward their Pari Office KM 125. Arriving at Hang Tuah public road, the vehicle made total stop as per signalman instruction due to culvert work on the road. A public vehicle which was following too close behind hit the vehicle resulted small scratch at the spare tire cover and small dented at the back door.
303	Dec	Selasa	27-Dec-2011	13:45	Public Road	Struck by/hit from rear	Bus	light vehicle	Contractor	Tuesday, 27 December 2011, at 13:45 hours, Travel Bus from the airport to Rumbai Transport stopped for traffic light at intersection of Simpang Tiga Airport - Jl. Sudirman, Pekanbaru. When the light turned green, the bus moved and was hit from the right side by a private car. No Injury, right side of the bus was scratches.
304	Dec	Rabu	28-Dec-2011	11:55	Field Road	Hit external object	Truck	Single	Company	On Wednesday, 28 December 2011 at 11.55 hours, Fire Truck was involved in motor vehicle incident at North Menggala GS when the truck was passing the GS gate after performing exercise at the GS. Un-closed box door hit the gate and result in damage to the box's door.



no	month	day	date	time	employee type	location	injury_type	body_part	description
1	Jan	Jumat	02/Jan/2009	13:00	contractor	5M - 42 A, DSF	DAFW	body	On Friday, 02 January 2009 at 13:00, the operation of Rig was pulling-out Permanent Packer with 2-3/8"X4-1/8" Tapper on Drill Collars. After laying down Fishing Jar, drill collar is pulled. At the first joint above Rotary Table, Floor men (3 persons) saw the well flowing from annulus and told Driller to lower the string, two of floor men left the floor while another one still on floor. After Drill Collar was set on top of the Rotary Table, floor man took Poor Boy(safety valve) to close the inside string. At that time, hot water flow from string and sprayed to Floor man and Driller. It caused Floor man's hand, hips, legs and stomach burn with 20% at 1-2 degree. The hot water also burn Driller's right hand with 2% at 1 degree. The well kick was controlled after pumping rate was increased from 3 BPM to 5 BPM. Poor Boy was then installed and its valve was closed. The IPs were immediately brought to hospital for further examination.
2	Jan	Jumat	02/Jan/2009	13:00	contractor	5M - 42 A, DSF	TRI	body	On Friday, 02 January 2009 at 13:00, the operation of Rig was pulling-out Permanent Packer with 2-3/8"X4-1/8" Tapper on Drill Collars. After laying down Fishing Jar, drill collar is pulled. At the first joint above Rotary Table, Floor men (3 persons) saw the well flowing from annulus and told Driller to lower the string, two of floor men left the floor while another one still on floor. After Drill Collar was set on top of the Rotary Table, floor man took Poor Boy(safety valve) to close the inside string. At that time, hot water flow from string and sprayed to Floor man and Driller. It caused Floor man's hand, hips, legs and stomach burn with 20% at 1-2 degree. The hot water also burn Driller's right hand with 2% at 1 degree. The well kick was controlled after pumping rate was increased from 3 BPM to 5 BPM. Poor Boy was then installed and its valve was closed. The IPs were immediately brought to hospital for further examination.
3	Jan	Kamis	15/Jan/2009	11:15	contractor	Rig TA#08 Kotabatak #332	TRI	Finger	On Thursday, 15 January 2009 at 11:15 hrs, rig crew were working for completing the well and intended to install double master valve. Master valve #1 was already set on wellhead while the master valve #2, which was hung and tied with sling to the foco truck, was being set by 3 (three) rig crew. When the master valve cross-over pin was sitting into box, the sling was released by foco in order to allow the pin to be screwed into box of master valve #1. In progress of first screwing rotation, the master valve #2 lost its balance, fell down, hit wheel of master valve #1, then it hit IP and caused an open wound on IP's ring finger. He was brought to Petapahan clinic and then to PT. X Minas Clinic after getting treatment at the location. IP received 6 stitches and was recommended to back to work for a light duty.
4	Jan	Rabu	28/Jan/2009	9:00	contractor	BRE Batch Plant Yard-Duri	DAFW	waist	On Wednesday 28 January 2009 at 09:00 hrs, Foco Truck driver and other crew were working at BRE Batch Plant yard to fabricate 48" diameter and 12 meter long steel culvert. During fabrication, the pipe rolled over and hit the foco truck driver who was standing in between 2 pipes. IP was immediately sent to Permata Hati Hospital then brought to PT. X Hospital-Duri. IP is still in observation, his waist was internally injured.
5	Apr	Rabu	08/Apr/2009	13:05	contractor	Road 4S near CGS 1 Duri Field	TRI	body	On Wednesday, 8 April 2009 at approximately 13:05 hours a single MVC occurred near CGS 1 Duri Field involving crane working for PT Dimas Drillindo. The crane was moving from one work location to another to support well work rig activities. While approaching the bridge adjacent to the 4S road, the crane went off the road on the left side of the bridge, hit bridge safety guard, and rolled over into the canal. Road conditions at the time were dry and weather was clear. As a result of the MVC, the crane driver was injured. The crane signal man who was also riding in the cab, received limited injuries that required medical treatment and returned back to work for light duty.
6	Apr	Selasa	21/Apr/2009	23:45	contractor	DSF-3R-35D	TRI	finger	On Tuesday 21 April 2009 at 23:45 hrs, after finished run casing 18 5/8, crane operator was intended to lift 6 joints of DP 5" form pipe rack to v-door, he was helped by air hoist. After DP 5" set at floor, sling DP and air hoist fell down and pinched left hand fingernail of crane operator. IP was immediately sent to PT. X medical for getting further medical treatment. IP was advised to back to work for light duty.
7	Apr	Kamis	23/Apr/2009	10:00	contractor	North East Area 6 Test Station Duri	TRI	Body	On Thursday 23 April 2009 at 10.00 hrs, PT TJE well program crew were assigned to do tie in job of 3" production line from new location 7Q 59 to the production header in the Test Station. They found the gate valve was immovable. When they were trying to release sandy materials by opening bolts of blind flange, hot oil sprayed onto 3 (three) workers. IPs were immediately sent to PT. X hospital where they received medical treatment and prescription medicine. They were advised to return to work normally.
8	Apr	Kamis	23/Apr/2009	10:00	contractor	North East Area 6 Test Station Duri	TRI	Body	On Thursday 23 April 2009 at 10.00 hrs, PT TJE well program crew were assigned to do tie in job of 3" production line from new location 7Q 59 to the production header in the Test Station. They found the gate valve was immovable. When they were trying to release sandy materials by opening bolts of blind flange, hot oil sprayed onto 3 (three) workers. IPs were immediately sent to PT. X hospital where they received medical treatment and prescription medicine. They were advised to return to work normally.
9	Apr	Kamis	23/Apr/2009	10:00	contractor	North East Area 6 Test Station Duri	TRI	Body	On Thursday 23 April 2009 at 10.00 hrs, PT TJE well program crew were assigned to do tie in job of 3" production line from new location 7Q 59 to the production header in the Test Station. They found the gate valve was immovable. When they were trying to release sandy materials by opening bolts of blind flange, hot oil sprayed onto 3 (three) workers. IPs were immediately sent to PT. X hospital where they received medical treatment and prescription medicine. They were advised to return to work normally.
10	Mei	Jumat	01/Mei/2009	16:45	contractor	Ampuh-17/ Rig ACS-01	TRI	hand	On Friday, 01 May 2009 at 16:45, Rig crew of PT ACS was working on Rig ACS #01, Ampuh -17. When laid down magnet tool on the rig floor, floor man's right hand little finger was hit by tubing wiper that was sliding on pup joint. Injured Person (IP) was directly brought to PT. X Medical for treatment. IP suffered bone fracture and received several stitches. The Doctor advised him back to light duty work.



no	month	day	date	time	employee type	location	injury_type	body_part	description
11	Mei	Minggu	24/Mei/2009	5:50	contractor	Rig SPA-05 working at NDD 4F-0801A	TRI	finger	On Sunday, 24 May 2009 at 05:50 hrs, during finishing process of SPA #05 rig up, a Driller (PT SPA employee) was working to install the ladder that connecting folding floor rig carrier and rig sub-structure. The Driller got a task to set up the position of the ladder at the rig sub-structure by holding the handrail while his position was beside the main drum of draw-work. He instructed the crane operator to lower the ladder slowly. In order to fit the ladder lock pin to substructure, he pulled the ladder which was still hanging at the top site by jerking it so that the ladder moved to the main drum cover. At the same time, his left hand was placed between stair handrail and main drum cover and this resulted his left hand thumb got pinched and his nail was detached. He got immediate first aid treatment on the spot and was brought to PT. X Medical Hospital for further medical treatment. The medical doctor recommended him to back to normal work
12	Jun	Selasa	16/Jun/2009	23:30	contractor	8C - 38 (Minas Area – 2)	TRI	leg	On Tuesday 16 June 2009 at 23:30 hrs, during rigging up process, a floorman of PT SMM was trying to release guy line wire rope which was stuck on rig mast. At the same time, he stepped into empty space at Folding Floor and was slipped into plat of Folding Floor. He got 1 inch cut on left leg. After having first aid treatment at rig site, IP was taken to PT PT. X Clinic in Minas where he received a few stitches. Doctor recommended IP to return to normal work.
13	Jun	Jumat	19/Jun/2009	9:00	PT. X	ex YPC Storage Duri Camp	DAFW	back/lower back - lumbar sacrum	On Friday morning 09:00 19 June 2009, when PT PT. X employee working for IT was trying to shift a box contains a CRT monitor (apprx 12 kg) in ex-YPC Storage room, suddenly he felt pain on his back. Then he was immediately brought to PT. X Medical Duri. The Doctor sent him to Hospital in Pekanbaru for further diagnose and treatment. This case was categorized as Days Away from Work Case.
14	Jun	Sabtu	20/Jun/2009	23:30	contractor	DSF Area # 05 6P-39A	DAFW	Leg	On Saturday 20 June 2009 at 23:30 hrs, Rig SPA-03 was in moving process from loc 6P-39A to 6I-52A Duri Field. After crane lifted matting board to base floor for T Bar support, crane operator swung the boom crane but the sling caught and lifted up discharge line pipe and the pipe fell down, hit Floorman's right leg which was standing beside the Loading Ram. The operation was stopped and IP was immediately sent to PT. X Medical Duri. Based on x ray at PT. X medical, IP's right leg small bone (Fibula) was fracture and the ankle joint bone was broken. The doctor decided to sent the IP to PMC medical Pekanbaru for further treatment. This case was categorized as Days Away From Work case.
15	Jul	Selasa	14/Jul/2009	9:40	contractor	Duri Warehouse KM 125 Yard	DAFW	Finger	On Tuesday, 14 July 2009 at 09:40 hrs, after finished loading tubing, driver and swamper of PT Bengkalis Kuda Laut Trailer 10787 intended to move and re-arrange the tubing using nipple so that tubing could be tied up. When driver moved tubing and swamper held it, tubing pinched swamper's point finger. This resulted the left point finger of swamper had cut wound suffered bone fracture. IP was brought to outside Clinic where IP recieved several stitches, prescription medicine (Antibiotic, Analgesic and Vitamin). IP was advised to take 1 day off. Thus, this case is categorizes as Days Away From Work
16	Jul	Rabu	29/Jul/2009	11:50	contractor	Jorang Asphalt Road (between Rangau GS and Jorang ferry)	DAFW	Body	On Wednesday, 29 July 2009 at 11:50 hrs, a KRS welding crew associated with the Rangau Cluster Consolidation Project was working along the side of an asphalt road installing new pipe. A welder was struck by a third party vehicle after he stepped off of a work platform and onto the shoulder of the road. A second worker located on the road shoulder was also struck. Traffic controls were in place at the time of the incident. There was a flagman and signage in place to warn oncoming traffic of work activates adjacent to the road. At 20 meters from the work site a 10 kph sign was posted. At 15 meters there was a Hati-Hati (Caution) sign. Behind the Hati-Hati sign was a flagman to manage traffic through the work site. A vehicle driven by a private party entered the work area at high speed, barely missed the flagman and struck 2 welding machines located on the shoulder of the road which projected approximately 18 inches onto the asphalt. The vehicle also struck the pipeline under construction. Worker was struck causing him to be thrown approximately 5 meters. The injured workers were then transported to the PT. X Duri Hospital in a KRS bus. The other worker experienced fractures of the leg and rib. He is being treated in the PT. X Duri Hospital.
17	Agust	Senin	17/Agust/2009	20:00	PT. X	Bangko Mess Hall	TRI	Body	After getting dinner at Bangko Messhall on 17 August 2009. Nine PT. X employees suffered from diarrhea on the following day at the various time. The IPs then brought to Bangko clinic for medical treatment. They back to work normally after having prescription medication. The food suspect was crab which served at the dinner to celebrate Independence day. Estimate PT. X employees and guest invited on the dinner was about 200 peoples. This resulted 8 PT. X and 4 BP employees received medical treatment beyond first aid
18	Agust	Senin	17/Agust/2009	20:00	PT. X	Bangko Mess Hall	TRI	Body	After getting dinner at Bangko Messhall on 17 August 2009. Nine PT. X employees suffered from diarrhea on the following day at the various time. The IPs then brought to Bangko clinic for medical treatment. They back to work normally after having prescription medication. The food suspect was crab which served at the dinner to celebrate Independence day. Estimate PT. X employees and guest invited on the dinner was about 200 peoples. This resulted 8 PT. X and 4 BP employees received medical treatment beyond first aid



no	month	day	date	time	employee type	location	injury_type	body_part	description
19	Agust	Senin	17/Agust/2009	20:00	PT. X	Bangko Mess Hall	TRI	Body	After getting dinner at Bangko Messhall on 17 August 2009. Nine PT. X employees suffered from diarrhea on the following day at the various time . The IPs then brought to Bangko clinic for medical treatment. They back to work normally after having prescription medication. The food suspect was crab which served at the dinner to celebrate Independence day. Estimate PT. X employees and guest invited on the dinner was about 200 peoples. This resulted 8 PT. X and 4 BP employees received medical treatment beyond first aid
20	Agust	Senin	17/Agust/2009	20:00	PT. X	Bangko Mess Hall	TRI	Body	After getting dinner at Bangko Messhall on 17 August 2009. Eight PT. X employees and 4 contractor employees suffered from diarrhea on the following day at the various time . IPs were then brought to Bangko clinic for medical treatment. They back to normal work after having prescription medication. The suspected food was crab which was served at the dinner to celebrate Independence day. Estimate PT. X employees and guest invited on the dinner was about 200 peoples. This resulted 8 PT. X and 4 BP employees received medical treatment beyond first aid
21	Agust	Senin	17/Agust/2009	20:00	PT. X	Bangko Mess Hall	TRI	Body	After getting dinner at Bangko Messhall on 17 August 2009. Eight PT. X employees and 4 contractor employees suffered from diarrhea on the following day at the various time . IPs were then brought to Bangko clinic for medical treatment. They back to normal work after having prescription medication. The suspected food was crab which was served at the dinner to celebrate Independence day. Estimate PT. X employees and guest invited on the dinner was about 200 peoples. This resulted 8 PT. X and 4 BP employees received medical treatment beyond first aid
22	Agust	Senin	17/Agust/2009	20:00	PT. X	Bangko Mess Hall	TRI	Body	After getting dinner at Bangko Messhall on 17 August 2009. Eight PT. X employees and 4 contractor employees suffered from diarrhea on the following day at the various time . IPs were then brought to Bangko clinic for medical treatment. They back to normal work after having prescription medication. The suspected food was crab which was served at the dinner to celebrate Independence day. Estimate PT. X employees and guest invited on the dinner was about 200 peoples. This resulted 8 PT. X and 4 BP employees received medical treatment beyond first aid
23	Agust	Senin	17/Agust/2009	20:00	PT. X	Bangko Mess Hall	TRI	Body	After getting dinner at Bangko Messhall on 17 August 2009. Eight PT. X employees and 4 contractor employees suffered from diarrhea on the following day at the various time . IPs were then brought to Bangko clinic for medical treatment. They back to normal work after having prescription medication. The suspected food was crab which was served at the dinner to celebrate Independence day. Estimate PT. X employees and guest invited on the dinner was about 200 peoples. This resulted 8 PT. X and 4 BP employees received medical treatment beyond first aid
24	Agust	Senin	17/Agust/2009	20:00	PT. X	Bangko Mess Hall	TRI	Body	After getting dinner at Bangko Messhall on 17 August 2009. Eight PT. X employees and 4 contractor employees suffered from diarrhea on the following day at the various time . IPs were then brought to Bangko clinic for medical treatment. They back to normal work after having prescription medication. The suspected food was crab which was served at the dinner to celebrate Independence day. Estimate PT. X employees and guest invited on the dinner was about 200 peoples. This resulted 8 PT. X and 4 BP employees received medical treatment beyond first aid
25	Agust	Senin	17/Agust/2009	20:00	contractor	Bangko Mess Hall	TRI	Body	After getting dinner at Bangko Messhall on 17 August 2009. Eight PT. X employees and 4 contractor employees suffered from diarrhea on the following day at the various time . IPs were then brought to Bangko clinic for medical treatment. They back to normal work after having prescription medication. The suspected food was crab which was served at the dinner to celebrate Independence day. Estimate PT. X employees and guest invited on the dinner was about 200 peoples. This resulted 8 PT. X and 4 BP employees received medical treatment beyond first aid
26	Agust	Senin	17/Agust/2009	20:00	contractor	Bangko Mess Hall	TRI	Body	After getting dinner at Bangko Messhall on 17 August 2009. Eight PT. X employees and 4 contractor employees suffered from diarrhea on the following day at the various time . IPs were then brought to Bangko clinic for medical treatment. They back to normal work after having prescription medication. The suspected food was crab which was served at the dinner to celebrate Independence day. Estimate PT. X employees and guest invited on the dinner was about 200 peoples. This resulted 8 PT. X and 4 BP employees received medical treatment beyond first aid
27	Agust	Senin	17/Agust/2009	20:00	contractor	Bangko Mess Hall	TRI	Body	After getting dinner at Bangko Messhall on 17 August 2009. Eight PT. X employees and 4 contractor employees suffered from diarrhea on the following day at the various time . IPs were then brought to Bangko clinic for medical treatment. They back to normal work after having prescription medication. The suspected food was crab which was served at the dinner to celebrate Independence day. Estimate PT. X employees and guest invited on the dinner was about 200 peoples. This resulted 8 PT. X and 4 BP employees received medical treatment beyond first aid
28	Agust	Senin	17/Agust/2009	20:00	contractor	Bangko Mess Hall	TRI	Body	After getting dinner at Bangko Messhall on 17 August 2009. Eight PT. X employees and 4 contractor employees suffered from diarrhea on the following day at the various time . IPs were then brought to Bangko clinic for medical treatment. They back to normal work after having prescription medication. The suspected food was crab which was served at the dinner to celebrate Independence day. Estimate PT. X employees and guest invited on the dinner was about 200 peoples. This resulted 8 PT. X and 4 BP employees received medical treatment beyond first aid
29	Agust	Minggu	23/Agust/2009	15:15	contractor	NDD, 3D-1105A	TRI	Finger	On Sunday, 23 August 2009 at 15:15 hrs, PT BN employee working as floorman was grabbing the liner Tong handle with the right hand, and pull toward casing to make connection. Then the tong jaw contacted with the casing and crushed floorman's right middle finger. IP got first aid at the location and then sent to Duri Hospital. IP received stitches and prescribed medication and Doctor recommended IP to return to work with light duty for 1.5 month. Thus, this incident is categorized as Restricted Work Activity Case.



no	month	day	date	time	employee type	location	injury_type	body_part	description
30	Agust	Senin	31/Agust/2009	11:05	contractor	5R-39, Area 2 Duri Field	DAFW	arm	On Monday, 31 August 2009 at 11:05 hrs, a Lineman of PT Mandau Wiraniaga (Sub Contractor PT Kaliraya Sari) was doing demolition work to dismantle 7 electrical poles at location 5R-29 Area 2 Duri Field. While he was at about 12 meters height to disconnect the third power line cable of the fourth de-energized electrical power pole, the power pole suddenly fell down together with IP (body belt being tied-off to pole) to the ground. This resulted IP's left elbow dislocated and fractured, his back of left hand crushed, his left hip bone broken and his right nostril on his nose was severely lacerated. He was directly taken to PT. X Clinic for medical treatment. IP is still hospitalized in PT. X Clinic. This incident is categorized as 1 DAFW (Days Away From Work) and 1 TRI (Total Recordable Incident).
31	Sep	Jumat	04/Sep/2009	8:45	PT. X	Rokan Building - Bangko	TRI	hand	On Friday 04 September 2009 at 08:45 hrs, after attending tail gate meeting at Rokan Building Bangko, a PT PT. X employee planned to go to Ubi#2. As he passed security toward exit door, he shook hand with security personnel and continued walking toward glass door (with aluminum frame, the right side was locked). While doing so, he hit and broke the glass door. This resulted cut wound with 6 stitches on his right hand and bump on his forehead
32	Sep	Sabtu	05/Sep/2009	22:00	contractor	Rig MU # 4	TRI	Finger	On Saturday 5 September 2009 at 22:00 hrs, when Rig crew PT Matra Unikatama was working to skid the substructure, a crane signalman was hit by a stopper pipe 3". IP was leaning to loading ram because his feet got stuck in mud and as he tried to release his feet, a stopper pipe fell, bounced and hit IP. He was immediately sent to Medic where IP received 4 stitches at his left hand finger. The following day, IP by his personnel initiative visited a doctor at Hang Tuah Clinic to clean the wound and change bandage. Based on information from IP, Doctor advised him to have 3 days rest. However, the classification still is pending obtaining original doctor recommendation letter.
33	Sep	Sabtu	12/Sep/2009	10:10	contractor	Rig HPS # 03 at location DSF 3Q - 28A	TRI	Finger	On Saturday 12 September 2009 at 10:10 hrs, when running in hole with 3-1/2" Bull Plug to check TOC (Top of Cement), after connecting the second stand of 3-1/2" NUE Tubing, the floorman could not release the Power Tong from the tubing because its jaw could not retract to its housing. Floorman 2 raised his right hand to give sign to Operator Power tubing tong (Floorman 1), while his left hand pushed the jaw. When his left hand was still in the Power Tubing Tong gate, floorman 1 released Power Tubing Tong handle. This caused the rotating gear of the power tong pinched and cut distal phalanges of three fingers (Index, Middle, and Ring fingers) of IP's left hand. IP was given first aid treatment at the location and brought to PT. X Duri Hospital for further treatment. IP was advised for light duty for three days. Thus, this incident is categorized as Restricted Work Activity Case
34	Sep	Selasa	15/Sep/2009	15:30	contractor	Pudu O-O-32B (#19)	TRI	Finger	On Tuesday 15 September 2009 at 15:30 hrs, when breaking down the standing 5" drill pipes, an assistant driller pinched his right little finger between the latch jaw and lug jaw of the break-out tong. He was then brought to PT. X Duri Hospital where he received 4 stitches. IP was advised for light duty for three days. Thus, this incident is categorized as Restricted Work Activity Case.
35	Sep	Senin	28/Sep/2009	0:50	contractor	Rig CDD#21	DAFW	head	On Monday 28 September 2009 at 00:50 hrs, when two floormen of PT Century were filling casing with 2" hose line, the inner wire strands of the hose got jam and plugged the end of the hose, this built up pressure instantly; the hose was lifted up and tossed one floor man for about 2 feet away and his foreheads landed on a steel chain cover at the rig floor. This caused an open wound at IP's forehead. IP got first aid treatment from the rig paramedic and was sent to Thursina Hospital Duri where he received 4 stitches. Doctor advised IP to have 2 days off. Thus, this incident is categorized as Days Away From Work
36	Okt	Senin	26/Okt/2009	9:30	contractor	MSS Machine shop	TRI	Finger	On Monday, 26 October 2009 at 09:30 hrs, an employee of PT TGE Machine Shop Duri was scraping stainless steel material. When he cleaned up chips around the machine, he pulled a chip by his hand but he did not realize that the chip was still attached and caused his right finger got cut. The IP was using hand gloves at that time. He got 1 cm cut and was immediately brought to outside clinic (Hangtuah Clinic) where he received 3 stitches. The Medical Doctor recommended him to do light duty and allowed him to return to work. This incident is categorized as Restricted Work Activity Case.
37	Okt	Senin	26/Okt/2009	17:10	contractor	Pungut	TRI	leg	On Monday 26 October 2009 at 17:10 hrs, a PT Wahanakarsa Swandiri employee was instructed by his immediate Supervisor to join 4" test line from location towards test boot. After finished welding, he used electric grinder to level the end of the pipe. While doing so, the grinder slipped off the hand and then hit and scratched his right thigh. IP was given first aid treatment and then brought to the nearest Clinic (Muara Basung). IP received 3 stitches and returned to work at job site.
38	Jan	Senin	18/Jan/2010	15:10	contractor	Area 12 South Station Duri	TRI	head	On Monday 18 January 2010 at 15:10 hrs, when a Truba employee was erecting scaffolding at Area 12 South Station Duri, a scaffold pole contacted his head. The injured person was then brought to Duri clinic where a 6 centimeters cut required stitches to stop the bleeding. X rays indicated no broken or chipped bones.
39	Jan	Selasa	19/Jan/2010	14:00	contractor	Main Road Bangko - Pinang (400 meters from Test Station C)	TRI	head/face	On Tuesday 19 January 2010 at 14:00 hrs, after completing survey stake out in Nella Field, a light vehicle PT Surveyor Indonesia was on the way to PT Surveyor Indonesia's Camp at Sedinginan. Arrived at approximately 400 meters before Test Station C Bangko field, the vehicle hit pipe support. This caused one of the passengers injured and was then brought to PT. X Clinic in Duri where he received stitches at his face and prescription medicine. This incident also resulted the right front tire broken, windshield broken, and the right side body of the vehicle got damage, the pipe was also damage for about 30 inch long. No oil spill.



no	month	day	date	time	employee type	location	injury_type	body_part	description
40	Feb	Sabtu	06/Feb/2010	14:45	contractor	Food Court Duri	TRI	finger	On Saturday 06 February 2010 at 14:45 hrs, Employee of PT Mutiara Merdeka Hotel was preparing food for dinner at Duri Food court. While chopping the beef into pieces, his left hand little finger was cut by chopping knife that caused his little finger got excoriating wound. IP got first aid treatment by Bethadine applications and having band aid/strips, and then the IP brought to outside Public Clinic Thursina for further medical treatment. There was no stitches nor injection except IP got Amoxicillin tablet (antibiotic) and Sanmol (paracetamol).
41	Feb	Minggu	07/Feb/2010	16:10	contractor	Pematang # 92	TRI	finger	On Sunday 07 February 2010 at 16:10 hrs, The Mechanic was searching for a BOP line plug in the toolbox located on sub structure base floor. A Roustabout (IP) was assisting floorman to unbolt a BOP nut by holding back the wrench with rope while the wrench was being struck. The IP had his hand positioned on the edge of the toolbox for support when the Mechanic released the hinged cover. The cover struck and pinched the IP's ring finger and little finger as the cover is being closed. The IP was sent to PT. X Medical in Duri and received 10 stitches. The doctor advised for light duty.
42	Feb	Selasa	23/Feb/2010	4:00	contractor	Rig HPS-05 location Kopar #03 Bekasap	TRI	finger	On Monday, 23 February 2010 at 04:00 hrs, at Rig HPS-05 location Kopar #03 Bekasap, when a floorman of PT HPS was performing Nipple Up tubing swab, he checked and found the swab cup was still in good condition. While pulling the cups assembly up and down, his right index finger was caught between swab cups and thimble causing an open wound. IP was then immediately brought PT. X Hospital Duri where IP received stitches and is currently still being observed by PT. X Medical doctor, X-ray indicated no fracture.
43	Mar	Rabu	03/Mar/2010	5:30	contractor	Rig ACS #07 location 3Q 15A DSF	TRI	head/face	On 3 March 2010 at 05:30 hrs, at Rig ACS #07, a floor man of PT ACS was working to pull pup joint from tubing hanger (doughnut) by himself using pipe wrench and lifted with air hoist. When the pup joint released from doughnut, the pipe wrench suddenly released and hit his mouth and nose. This caused his lips got injured and one of his teeth broken. IP was then immediately brought to PT. X Hospital Duri for medical treatment. After having X-ray, the result indicated small bone fracture on his nose. Doctor gave him prescribed medication and recommended him to do light duty for 3 days.
44	Mar	Rabu	03/Mar/2010	8:30	contractor	Rig DPC 06, 7D-97N Minas	TRI	head/face	On 3 March 2010 at 08:30, there was fight happened at Rig DPC 06 7D-97N Minas between PT DPC employees (Derrickman and Mechanic) beside accumulator place. One of crew got injury on his face/temples and got 7 stitches (no fracture on temples/face based X-Ray result).
45	Mar	Kamis	11/Mar/2010	9:45	contractor	Rig MU #03, Location 8C - 58N	TRI	hand	On Thursday 11 March 2010 at 09:45, at Rig MU#03 location 8C-58N, a PT MU electrician saw radiator cover of genset was not fully closed, he took an initiative to close it. While doing so, a hot water sprayed at his left palm hand and was immediately sent to PT. X Hospital. Doctor's diagnose indicated 1 and 2 grade of burnt injury.
46	Mei	Rabu	12/Mei/2010	15:30	contractor	FM Warehouse Junk Yard at Kerinci Complex	TRI	finger	On Wednesday, 12 May 2010 at 15:30 hrs, a contractor employee of CV Yeti Wirasta (LBD Company) was preparing pipe material to make Junk Box in FM Junk Yard at Kerinci Complex Duri Camp. When he lifted the pipe to arrange the pipe prior to weld, the pipe slid and caused his right index finger squeezed and injured. He got first aid treatment at the location (iodine and band aid). Then, he was brought to Duri PT. X Medical to get medical treatment. He got three stitches and received prescribed medication and was advised to do light duty for 3 days. This case is categorized as Restricted Work Activity Case.
47	Jun	Kamis	03/Jun/2010	9:30	contractor	Minas 5D-13N	TRI	finger	On Thursday, 03 June 2010 at 09:45 hrs, a Sr. Mechanic of PT Matra Unikata was installing chain on the chain case at Minas 5D-13N. After chain was already placed on the sprocket, he lifted and shifted the chain. While he picked up and put the chain on the sprocket, his right-hand middle finger wedged between the chain and sprocket. This caused the tip of the right middle finger was cut. After receiving first aid at the rig site, IP was sent to PT. X Medical Minas and Rumbai. The Surgeon conducted surgery and advised IP to do light duty for 2 weeks. This case is categorized as Restricted Work Activity Case.
48	Jun	Selasa	08/Jun/2010	11:40	contractor	Duri Conf Room	TRI	head	On Tuesday, 08 June 2010 at 11:40 hrs, PT PCB site manager was presenting project progress in FM ECS weekly meeting. He was the 7th presenter of 10th on this meeting. During the presentation, PT PCB site manager suddenly collapsed and fell down. His head hit a table in the meeting room. He is unconscious after hitting the table. IP got 2 wounds on his face. One on his forehead and another on his right eye lid. IP received 2 stitches on his wound of his right eye lid. This case is categorized as Total Recordable Injury.
49	Jun	Kamis	10/Jun/2010	14:45	contractor	NW Test Station Area-01	TRI	finger	On Thursday, 10 June 2010 at 14:45 hrs, PT RDP crew was working to install new fin fan cooler at NW Test Station Area-1. At that time, the crane which lifted down the Tube Bundle Fin Fan Cooler was not on position because wedged by angle of existing. The IP was trying to move down the angle by using pipe. When the Tube Bundle Fin Fan Cooler moved down to its position, it pressed the pipe and pinched the left hand ring finger of IP. This incident resulted the left hand ring finger injured. IP was taken to PT. X Hospital Duri.
50	Jun	Sabtu	19/Jun/2010	11:25	contractor	ACME Heavy Equipment Shop Duri	TRI	finger	On Saturday, 19 June 2010 at 11:25 hrs, mechanic PT TG was working to unfastening bolts of bulldozer 7 x 768 using 1.5" socket key and drive key 1" plus additional pipe wrench. When the bolt was starting to loose, the pipe wrench was snapped, fell down and pinched two fingers of left hand of the mechanic between floor and pipe. This caused his nail of one finger was loosen. IP was brought to PT. X Medical Duri where he received 9 stitches and was recommended for 6 days of light duty. This case is categorized as Restricted Work Activity Case.



no	month	day	date	time	employee type	location	injury_type	body_part	description
51	Jun	Sabtu	19/Jun/2010	19:15	contractor	Jalan Lintas Duri-Dumai KM 9 Kulim	TRI	finger	On Thursday, 24 June 2010 at around 19:15 hrs, PT GN Isuzu Elf Micro Bus BM-7654-DF (PT. GN Bangko Balam area) driven by Driver Crew of PT GN was on trip for commuting the personnel to Duri after duty hours. At Jalan Lintas Duri-Dumai KM 9 Kulim, there was a motorcycle from opposite direction and suddenly the rider threw something (it could be stone or bottle or wood but didn't found on the scene) to the vehicle caused the windshield glass broken. The driver got injury on his right ring finger and chin. No other side damage on the vehicle. The injury person was brought to Mandau Sejahtera Clinic (public Clinic) at Simpang Geroga for treatment. He received 2 stitches. This case is categorized as Medical Treatment Case.
52	Jul	Selasa	06/Jul/2010	10:30	PT. X	Corridor 3P-16A	TRI	head	On Tuesday, 06 July 2010 at 10:30, operator Area 9S was working to check production line at Corridor 3P-16A in order to conduct flushing job. While doing so, he unintentionally touched small tree or bushes with bees hives. He was then attacked by bees on his head and arm. He was then brought to PT. X Hospital Duri. This case is categorized as Medical Treatment Case.
53	Agust	Selasa	10/Agust/2010	3:00	contractor	DSF 4H-30B	TRI	arm	On Tuesday, 10 August 2010 at 03:00 hours, there was BOP Stack lay down activity at Rig HPS-01 in Duri Field. Crane and Travelling Block were utilized to lay down BOP. When the sling of the crane was pulled up, the Crane Block slid down to the fence guard of the rig floor caused it lifted up the guard and the guard fell down. Fence guard dropped and hit Floorman's left hand arm. This incident caused Floorman's left arm broken at ulna bone. The Injured Person was seeking for a Traditional Medication instead of going to PT. X Medical. Classification of this incident is still pending waiting for further investigation.
54	Okt	Sabtu	09/Okt/2010	12:40	PT. X	KB-311 Kotabatak	TRI	head	On Saturday, 9 October 2010 at 12:40 hours, during working on the job to install Transformer at KB-311, some workers were having their lunch across production line. After finishing the lunch, one of the worker (PT PT. X Employee) was walking to return to transformer pad. On the way there, he ducked under two pipe lines but his head hit the second pipeline. He got hurt on his head and was brought to Ko-Pet clinic for medical treatment. He received stitched on his head. This incident is classified as one Total Recordable Incident (TRI).
55	Okt	Minggu	24/Okt/2010	23:45	contractor	Minas	TRI	ear	On Sunday, 24 October 2010 at 23:45 hours, PT SGJ crew was working to disassemble ESP unit. While foco truck operator and swamper was waiting for another job at mustering point, an insect entered operator's right ear. Injured person was brought to PT. X Clinic Minas to get aid. IP was then brought to Awal Bros Hospital Pekanbaru. This incident is classified as one Medical Treatment.
56	Nop	Minggu	21/Nop/2010	13:40	contractor	Petani #65	TRI	finger	On Sunday, 21 November 2010 at 13:40 hours, PT HPS rig crew was working to connect releasing tool into 3.5" tubing at Petani #65. After connecting ± 8 threads, the tubing was disconnected from elevator and hit Floorman's right index finger. This incident resulted 2 cm open wound. The IP was then sent to PT. X Medical Duri, where he received 6 stitches. Doctor recommended him to do light duty. This incident is classified Restricted Work Activity Case.
57	Nop	Jumat	26/Nop/2010	14:10	PT. X	Taman Kupu-kupu Duri	TRI	foot	On Friday, 26 November 2010 at 14:10 hours, PT PT. X employee was supervising work at Taman Kupu-kupu, Duri. He felt something at his foot and found a centipede bit his foot. IP was then brought to Emergency Room PT. X Hospital Duri and received Salep (Ointment) and Celestamine tablet. This incident is classified as one Medical Treatment.
58	Nop	Senin	29/Nop/2010	9:40	PT. X	CGS Area 10	TRI	foot	On Monday, 29 November 2010 at 09:40 hours, PT PT. X employee, a CGS 10 operator, was about to adjust effluent water discharge passing through Re-Run Tank when his right foot slipped into ditch which contain hot water. This resulted blistered on IP's right foot. IP received medical treatment in PT. X Medical Duri. IP is now on job restriction. This incident is categorized as Restricted Work Activity Case.
59	Des	Rabu	01/Des/2010	0:30	contractor	Bangko263	TRI	foot	On Wednesday, 01 December 2010 at 00:30 hours, PT RUI floorman was walking to wellpad to tighten pipes. He slipped while walking on clay and injured his right ankle. The IP was then brought to PT. X Medical Duri where he received treatment and prescribed medicine. Doctor advised him for light duty. This incident is categorized as one Restricted Work Activity Case.
60	Des	Kamis	09/Des/2010	14:15	contractor	CSS 5 DSF	TRI	leg	On Thursday, 9 December 2010 at 14:15 hours, PT. Multi Structure's operator of Foco Truck working at CSS-5 close to power line. Foco's boom hit 13.8 KV powerline and the operator got electrical burn. The IP was sent to PT. X Medical Duri and was advised to return to work for light duty on the following day.
61	Des	Jumat	10/Des/2010	10:15	contractor	Kulim 20	TRI	ear	On Friday, 10 December 2010 at 10:15 hours, PT ABC employee was working at #1 Central Duri Feeder, Kulin Field. He was bitten by red ant at his rear ear. IP was then brought to PT. X Hospital Duri to get aid. This incident is classified as one Medical Treatment.
62	Des	Minggu	12/Des/2010	2:30	contractor	Area 3J-29A DSF	TRI	finger	On Sunday, 12 December 2010 at 02:30 hours, PT RUI crew was lifting new polish rod from its sliding rack by using sucker rod elevator. PT RUI floorman tried to control elevator's movement by holding the polish rod clamp by using his right hand. At the height of ± 6 ft the clamp slid down, hit and injured the right hand of the floorman. This resulted open wound on his right little finger. He received 9 stitches, prescribed medication and was advised to do light duty for 6 days. This case is categorized as Restricted Work Activity Case.
63	Des	Minggu	12/Des/2010	8:30	contractor	Facility Area Rig Maintenance WDR Duri	TRI	finger	On Sunday, 12 December 2010 at 08:30 hours, PT DM employee was replacing a broken bulb lamp of electrical generator. The employee's left thumb was injured when he was opening the bulb lamp. IP was then sent to Thursina Clinic and then to PT. X Medical Duri. IP got 3 stitches and was able to return to his normal job. This case is categorized as Medical Treatment.



no	month	day	date	time	employee type	location	injury_type	body_part	description
64	Jan	Senin	17/Jan/2011	9:00	PT. X	Buterfly Park Duri	DAFW	leg/knee	On Monday, 17 January 2011 at 09:00 hours, SLS Production and REM Team conducted team building for their member at Duri. There was a physical game during ice breaking and the IP also participated without considering his limitation. This condition made IP unable to continue the physical game and he performed SSWA (Self Stop Work Authority). After taken rest for while the PT. X observer advised the IP to have further observation at PT. X medical team. The mEdical doctor advised IP to take bed rest at home for three days. This incident is classified as Days Away From Work.
65	Jan	Sabtu	29/Jan/2011	18:30	contractor	5 U-16 D - DSF Area 2	TRI	eyelid	On Saturday, 29 January 2011 at 18:30 hours, PT Scomi employee was working for mixing mud at Rig SPA 10, 5 U-16 D - DSF Area 2. When the Scomi employee switched off the agitator, his right knee hit switch box of the agitator. IP fell down that cause open wound on the right eyelid and multiple excoriation wound. IP was then taken to PT. X medical Duri for further treatment. He received 3 stitches, prescribed medication and was advised to do light duty for 3 days. This case is categorized as Restricted Work Activity Case.
66	Feb	Selasa	15/Feb/2011	13:30	PT. X	KM36 Minas Duri Main Road	TRI	rib	On Tuesday, 15 February 2011 at 13:30 hours, PT. PT. X light vehicle driven by PT. PT. X employee was on the way from Petapahan to Minas Camp. Arrived at Km 36 after a curve road, there was a truck (truck A) stopped on the opposite lane of the road. While truck A was starting to move, there was another truck (truck B) trying to overtake truck A. The PT. PT. X vehicle trapped and hit by both trucks (truck A hit the right rear side and truck B hit the front side of PT. PT. X vehicle). This resulting damages on front side and right rear side of pickup and injuries to the pickup driver and passenger.
67	Feb	Senin	21/Feb/2011	11:20	contractor	Lagoon Duri	TRI	leg	On February 21, 2011 at 11:10 PT. RSIM employee working to clean yard lagoon of WTP Duri. Firstly IP always replace the shoes what he had worn with the usual shoes he wears and stored in the material godown at workplace. While wearing shoes there is scorpion inside and bit his left leg middle finger. Immediately he brought to emergency room Medical Duri and treated with hydrocortison cream 0.1% and other prescribed medication and medical officer send IP back to normal work.
68	Mar	Jumat	25/Mar/2011	15:00	contractor	3C 86 DPC 5 Minas area	TRI	leg	On Friday, 25 March 2011 at 15:00 hours, PT DPC employee was working on rotating power tong to push down wellbore scale (while dropping water from water tank through annulus), the power tong didn't work properly and floor man fixed power tong dies. During fixing the power tong, the hot fill up fluid came out of the well and sprayed the floor man legs. The incident resulted grade 2 burn on left and right legs (5% burn area). The Doctor was advised to do light duty. This case is categorized as Restricted Work Activity Case.
69	Apr	Senin	04/Apr/2011	18:10	contractor	5V-30A - DSF	TRI	calf	On Monday, 04 April 2011 at 18:10 hours, employee of PT SPA #3 working at 5V-30A DSF was about to exit through the access control. There were 2 dogs attached to warning sign post near the access control as the owner was asking for drinking water. When the PT SPA employee passing the dogs, one of the dog bite the victim on his calf. The victim brought to PT PT. X Hospital to get medical attention. This incident classified as Medical Treatment Case.
70	Apr	Senin	18/Apr/2011	14:00	contractor	7 M 24A Area # 8, Duri Field	TRI	leg	On Monday, 18 April 2011 at 14:00 hours, PT TS employee was working at 7M-24A DSF. When having completed the job, he would return to Access Control then his right foot slipped and fell into the temporary pit and exposed by hot water. IP was then brought to Duri PT. X Hospital for medical treatment. The incident resulted grade 2 burn on right foot (2-3% burn area). The Doctor was advised to do light duty. This case is categorized as Restricted Work Activity Case.
71	Apr	Sabtu	23/Apr/2011	11:00	contractor	WDR Rig Maintenance Shop	TRI	finger	On Saturday, 23 April 2011 at 11:00 hours, PT Drilinc crew was working to replace mechanical seal accumulator no:12. Injury Person (IP) was working to do air pump running. When IP saw coupling connection piston air to hydraulic pump was not in correct position so he tried to fix it by placing his right hand above nut. At the same time air pump piston moved down and hit his right middle finger. IP was immediately taken to Duri PT. X Medical. IP received 8 stitches and prescribed medicine. The Doctor was advised to do light duty. This case is categorized as Restricted Work Activity Case.
72	Mei	Jumat	06/Mei/2011	9:50	contractor	6L-41A Duri	TRI	eye brows	On Friday, 06 May 2011 at 09:50 AM, a dozer rotary lamp was caught on a tree branch when it was parked by its Operator. Swamper tried to release the branch by standing up behind the dozer. At the same time, Operator checked the condition by standing up beside the dozer. When the branch released by Swamper, it hit Operator (IP) causing an injury to his right eye brows. IP was treated first aid at rig site then brought to Duri PT. X Medical for further treatment. IP received 8 stitches and prescribed medicine. The Doctor was advised to normal work. This incident is classified as a Medical Treatment Case.
73	Mei	Kamis	12/Mei/2011	8:50	contractor	6L-41A Duri Area 7 SC AWT Duri Field	TRI	arm	On Thursday, May 12th, 2011 at 08.50, a worker was working to repair burner of incinerator at AWT area 7 SC Test Station. When the worker moved the burner out off the grating platform, the burner fall down onto the ground (± 25 cm of elevation). Worker's glove was stuck to the jagged plate surface of the burner that made him also fall down with his left arm hold his body. This incident caused a fracture injury on his left arm and is classified to restricted work activity case.
74	Mei	Minggu	15/Mei/2011	10:15	contractor	8E-98 Minas	TRI	ear	On Sunday, 15 May 2011 at 10:15 AM, a worker (IP) was opening stud bolt of BOP/Double Ram. At the same time, Driller lifted sling BOP and its shackle using hydraulic hoist. The sling BOP hit working platform (WPF) and shackle of sling swung to back side of IP right ear caused an open wound. He received first aid at rig site then brought to PT. X Medical for further examination. IP got 2 stitches and discharged from medical to work normally. This incident is categorized as Medical Treatment Case.



no	month	day	date	time	employee type	location	injury_type	body_part	description
75	Jun	Jumat	10/Jun/2011	22:45	contractor	SPA 10 – 4M56C Duri Field	DAFW	hand	On Friday, 10 June 2011 at 22:45 hours, during set up containers (rest house and mechanic shop) at 4M56C using dozer, the dozer operator was helped by dozer signalman. While doing so, an electrician of PT SPA entered the space between two containers to check the distance between the opening of rest house container window and the mechanic shop container. At the same time, the dozer moved forward causing the rest house moved and pinched the electrician left hand at the window of rest house. Then, the Injured Person (IP) was brought to PT. X Duri Hospital. After examination and X ray, the IP then handled by surgeon for hand surgery and he is recommended to have three days off. This case is categorized as Days Away From Work. Click here for picture reenactment. (11-13 Jun 2011)
76	Jun	Senin	20/Jun/2011	5:00	contractor	DSF/6T-49A	TRI	hand	On Monday, 20 June 2011 at 05:00 hours, PT RUI employee was connecting a production line as part of rig activities. When the cat line was pulled out, it loose from the stud bolt and swung to the worker's right hand. The job was then stopped and worker got some treatment at location. Latest medical examination shown a fracture on the right hand palm. This incident is classified as Restricted Work Activity Case (RWAC).
77	Jun	Kamis	30/Jun/2011	10:10	contractor	7E Yard Minas	TRI	finger	On Thursday, 30 June 2011 at 10:10 hours, PT TJE employee intended to bend of rebar on rebar bending machine. While bend the point he held one end of the rebar by his right hand at the same time some of his fingers were put on gap between rebar and bender machine. Then he started to press push button to start bending. While bending in process, the rebar was pressed and moved toward his right hand causing the rebar pinched and injured his middle finger at the top part. This incident is classified as one Restricted Work Activity Case (RWAC).
78	Jul	Jumat	08/Jul/2011	15:30	contractor	Sembilang Office	TRI	hand	On Friday 08 July 2011 around 15:30 PM, an employee (IP) of Rig 02 of PT HPS completed attending safety briefing and incident sharing at Sembilang Conference Room of Wellwork & Completion Building along with other 12 this rig crews. When IP walked out of the building to the parking area, IP was not focus while walking out and struck window glass next to the exit door then felt down. His hands slide on the broken glass cause injury on his both hands. He was then brought to PT. X Medical clinic and got 14 stitches on his both hand, and advised to do light duty by PT. X's doctor.
79	Jul	Sabtu	23/Jul/2011	10:25	contractor	Workover Rig ACS #6	TRI	eye	On Saturday, 23 July 2011 at 10:25 hours, PT ACS employee was releasing lock pin that was connecting rig substructure and the lodging ramp by hitting with a 10 lbs hammer. There were 4 lock pins and the first 2 pins were successfully locked out, however the third one was difficult to open. IP took a T-tool and used it as a "pusher" by holding it against the lock pin so the other Floorman could hit the T-tool with hammer, delivering some force to the lock pin and pushes it out. After 5-6 hits, hammer did not hit the T-tool perfectly causing it to bounce sideway and hit IP's safety glass. IP got open wound around his left eye as the result of hammer impact on his safety glass. This incident is classified as Medical Treatment Case.
80	Agust	Senin	01/Agust/2011	15:00	contractor	Storage pipe 7E-Yard	DAFW	leg	On Monday August 01, 2011 at 15:00 WIB, crane transport crews were working to unload 8" pipe from trailer at storage pipe 7E yard. They had already unloaded 5 joints as first layer and 4 joints as second layer on the ground. One side of first layer was chucked by pipe stopper but the other side was chucked by a piece of stone. When one pipe was put on the third layer and the IP step closer to the pipes to release the sling, the first layer of pipe rolling and hit the IP's Right leg. At the same time IP's left hand ingeniously held his leg while the pipe was still moving, caused the IP's pointing finger pinched. The case is classified as a level 3A incident
81	Agust	Senin	08/Agust/2011	21:30	contractor	5M22A	TRI	eye	On Monday, 08 August 2011 at 21:30 hours, PT ACS employee was took initiative to jumper crane spare battery. The employee took off the battery from crane and brought it to mud pump area and connected to the mud pump's battery. When starting the mud pump, crane's battery exploded and the battery's fluid was spraying into the crane's swamper face and got into his eyes (he was wearing safety glasses). IP was sent to PT. X Clinic for medical treatment and was advised to go back to work. This incident is classified as Medical treatment Case
82	Agust	Kamis	11/Agust/2011	11:15	contractor	Pipe rack MSP SFT2 - Minas	TRI	finger	On Thursday, 11 August 2011 at 11:15 AM, three employee PT TJE from piping crew intended to relocate one lifting frame (2 inch pipe) with estimate weight about 50 kgs. Two workers holding the vertical members and the third worker (IP) holding the horizontal member (middle part of frame). While starting to lift the lifting frame, one worker dropped the lifting frame. The plate section of the lifting frame slipped in the hand of the third worker (IP) which resulted into an injury/cut to the left ring finger of the IP. IP was taken immediately to PT. X clinic and got 4 stitches and allowed to return to work at jobsite. This incident is classified as Medical Treatment Case
83	Agust	Kamis	18/Agust/2011	17:15	contractor	12" Libo Gas Line	TRI	hand	On Thursday, 18 August 2011 at 17:15, there was a fire incident during the installation of spool connection for 12" Libo Gas Line. The crew be able to stop fire after several minutes later. One of the crew has injury (burn) on his left and right hand (level-2) and his neck (level1) and the other one also get minor injury (level 1) on his right face.
84	Agust	Kamis	18/Agust/2011	17:15	contractor	12" Libo Gas Line	DAFW	neck	On Thursday, 18 August 2011 at 17:15, there was a fire incident during the installation of spool connection for 12" Libo Gas Line. The crew be able to stop fire after several minutes later. One of the crew has injury (burn) on his left and right hand (level-2) and his neck (level1) and the other one also get minor injury (level 1) on his right face.
85	Agust	Kamis	25/Agust/2011	13:30	contractor	Pad Loc 4D26NP1 – LOSF area	TRI	head	On Thursday, 25 August 2011 at 13:30, PT SIC crew was work for repair base of access road and pad location. The IP intended to have a pee at the edge of pad location 4D26NP1. While doing so, he was attack and stung by wasps. IP was then sent to Sehat Clinic and then to PT. X Medical Duri for further treatment. This incident is classified as Medical Treatment Case.



no	month	day	date	time	employee type	location	injury_type	body_part	description
86	Agust	Senin	29/Agust/2011	8:00	Contractor	Batang#51	TRI	hand	On Monday, 29 August 2011 at 08:00 hrs, a worker took his hand glove from tool box. When he wore the hand glove, he felt something bite his finger of right hand. When he took off the glove, he found a centipede inside the glove. This incident was classified medical treatment case.
87	Sep	Selasa	13/Sep/2011	17:25	contractor	SO Piala #02	TRI	finger	On Tuesday, 13 September 2011 at 17:25, IP (Electrician) was working to install a grating plate bridge/walkway between square tank #1 and #2 but something was preventing it to set properly on its place. IP tried to work on it when it suddenly set on its place and caught his left middle finger between the grating plate and the tank. IP received first aid treatment at the rig site and was rushed to PT. X medical facility. In PT. X medical, x-ray result revealed broken bone on his left middle finger tip and Doctor followed up with 5 sutures on IP's wound. IP was discharged from PT. X medical and back to work site. This incident is classified as Medical Treatment Case.
88	Sep	Minggu	18/Sep/2011	22:30	contractor	5 E- 94	TRI	eye	On Saturday, 18 September 2011 at 22:30, PT Besmindo employee after cleaning the mud pit of cement cutting, was slipped and fell. His eyes were splashed by water cutting cement. After washing with eye wash and given by First Aid, he was taken to PT. X Clinic Minas for further treatment. Further diagnosis is to be confirmed.
89	Sep	Jumat	23/Sep/2011	16:30	contractor	DSF 5S-29A	TRI	collar bone	On Friday, 23 September 2011 at 16:30 hrs, a lowbed operator was about to unfold the lowbed's ramp so the dozer operator could unload a dozer from his lowbed at DSF 5S-29A. IP was standing behind the ramp on the lowbed and pushed the ramp forward with his hands. As the ramp fell forward, IP felt that his hand glove was caught on the ramp and pulled him forward. IP lost his balance and fell down to the ground. IP was rushed to PT. X medical and x-ray revealed broken on his left collar bone. After received treatment, IP was released from the medical. This incident is classified as Restricted Work Activity Case (RWAC).
90	Sep	Selasa	27/Sep/2011	14:30	contractor	4M - 73A (DSF)	TRI	Left Palm (Telapak tangan kiri)	On Tuesday, 27 September 2011 at 14:30 hrs, when roustabout was working on rig floor with nipple, the nipple was sliding and caught his left palm. IP was taken immediately to PT. X clinic and got 2 stitches and allowed to return to work at jobsite. The Doctor was advised to do light duty. This case is categorized as Restricted Work Activity Case.
91	Okt	Selasa	04/Okt/2011	13:25	contractor	Bekasap Borrow Pit – WKS Fabrication Yard	TRI	finger	On Tuesday, 04 October 2011 at 13:25 hrs, WKS welding crew was working for fabrication 6" pipe spool at Bekasap Fabrication yard. A welder lifted up a 6" flange and attached it to the end of pipe then his foreman checked the connection level between pipe end and the flange by touching it with right hand. At the same time, the welder could not hold the flange more longer causing the flange felt down and foreman hand was caught between the flange and the end of pipe. This incident resulted his middle and ring finger injured. This case is categorized as Medical Treatment Case.
92	Okt	Rabu	05/Okt/2011	3:00	contractor	Minas 3A-36	TRI	hand	On Wednesday, 05 October 2011 at around 03:00 hrs, there was an incident in DPC #03 WWnC to PT Schlumberger Cementing Crew. While R/U CMT Unit, a Dowel Crew was untying a rope that hold 2" pipe, his hand got lacerated. He received first aid at location and was referred to PT. X Clinic at Minas for further treatment. He received several stitches and was advised to back to work. This case was classified as Medical Treatment Case.
93	Okt	Senin	10/Okt/2011	13:05	PT. X		DAFW	ankle	On Saturday, 10 October 2011 at 13:05 hrs, PT PT. X Employee was on the way from Dumai to Duri for attending one-week training by using his motorcycle. Arrived at Bukit Kapur public road he tried to avoid another rider who suddenly appear to cross the road, and made him fell from his motorcycle. This incident resulted wound below the left ankle. This case was categorized Days Away From Work.
94	Okt	Sabtu	22/Okt/2011	11:50	PT. X	Rest Park II Minas	DAFW	ankle	On Saturday, 22 October 2011 at 11:50 hrs, There was an incident during HO team outbound activities at Rest Park Area - Anggrek Minas. Participant's nose was hit by elbow of another participant. Further diagnosis of his injury is to be confirmed.
95	Okt	Sabtu	29/Okt/2011	13:05	contractor	3C-86 (COCS area) - Minas	DAFW	calf	On Saturday 29 October 2011 at 13:05 hrs, a tractor owned by PT SGJ was being moved from 3C 86 to 8D 58. While positioning the tractor onto the trailer lowbed, the front left tire came off the edge and the tractor tipped off and landed on its side on the ground. The tractor operator's left calf was caught between the ground and the tractor cabin. This incident resulted in a Days Away From Work injury.
96	Nop	Sabtu	05/Nop/2011	6:00	contractor	Rig TA 02 - Petapahan	DAFW	finger	On Saturday, 5 November 2011 at 06:00 early morning, rig crews were replacing oil saver rubber for swabbing job. The tubing tool was lifted using catline with 3/8" lifting sling as a fastening sling and the tubing tool position beside the swab head. Injured Person (IP) was trying to push swab cup into tubing tool when the fastening sling slipped, causing the tubing tool to slide down and caught IP's right middle finger between swab cup and bottom of tubing tool (union hammer connection). IP was brought to Flamboyan clinic in Petapahan and then referred to Permata Hati hospital in Duri. Where he had to have surgery later on due to he got opened fracture of his metacarpal bone and amputated fracture of the tip middle finger. IP was then transferred to PT. X Medical in Duri on Monday, 7 November 2011 and recommended for light duty job.



no	month	day	date	time	employee type	location	injury_type	body_part	description
97	Nop	Minggu	20/Nop/2011	10:30	contractor	Kota Batak 388	TRI	neck	<p>Pagi ini kita dapat laporan dari salah satu crew kita yang sedang job di KB-388 , aktivitasnya RIH reda unit 90 %. Sewaktu akan turun dari rig flour sekitar jam 10:30 Field Operator kita merasakan ada sesuatu yang menggigit bagian tengkuk ( di belakang leher). Posisi dari rekan kita ini sudah di trailer untuk melakukan aktivitas rig down trailer karena RIH yang hamper selesai dan akan dilanjutkan dengan install QCI.</p> <p>Pada awalnya hanya sakit saja yang dirasakan oleh rekan kita ini, namun 30 menit kemudian dia mulai meraskan gatal-gatal dan sebagian tubuhnya sudah mulai bengkak/bentol seperti gejala terserang alergi.</p> <p>Lalu FO melaporkan ke crew chiefnya dilokasi dan minta izin untuk diantar berobat ke klinik.</p> <p>Sewaktu saya menerima laporan dari base dari 5D-43 saya langsung menuju ke Kopet area untuk memastikan kondisi dari rekan kita tersebut ( pada jam 11:00).</p> <p>Jam 12:45 sampai di Petapahan clinic dan langsung menjumpai Pak Indra.</p> <p>Kemudian kita pastikan kondisi kawan kita yang sudah di clinic PT. X tersebut.</p> <p>Menurut dokter jaga di clinic PT. X ( Doni Petrus), dia hanya alergi biasa dan categorynya termasuk pemberian first aid ke Operator Kita.</p> <p>Kemudian hasil diskusi ini saya teruskan ke FSM ( bahwa di clinic ada Pak Indra Sakti dari SPS dan Pal Doni Petrus ( medical PT. X) , Zulfahmi ( SLB supy), menginfokan data ini ke mas Pujo bahwa ini termasuk kategori Industrial incident non recordable.</p>
98	Nop	Kamis	24/Nop/2011	14:50	PT. X	Public Road KM 33 Minas - Duri	DAFW	knee	On Thursday, 24 November 2011 at 14:50 hours, PGT crew was repairing jumper at recloser 6D-18A (Minas KM 33). Outsider dump truck loaded with gravel was trying to overtake two public vehicles that were stopped by a security officer for traffic management. The dump truck driver failed to control his truck and crashed into the security car and PGT light vehicle until it was stopped by a bucket truck. One of the PT. X employees suffered a sprain when avoiding the dump truck crash and was brought to the PT. X Clinic at Minas Camp for further treatment. Incident classification is to be confirmed.
99	Nop	Rabu	30/Nop/2011	22:30	contractor	DSF 3L-39 D	DAFW	wrist	On Wednesday, 30 November 2011 at 22:30 hrs, PT SAS employee felt down from foco truck bed while dismantling or loading Durabase (rig mat) at a wellpad in DSF. IP was brought to outside klinik (Thursina Hospital in Duri). This incident resulted that IP wrist bone fracture. Now the IP is being observed in PT. X Medical.
100	Des	Minggu	18/Des/2011	22:00	contractor		TRI	finger	On Sunday, 18 December 2011 at 22:00 hours, PT ACS employee attempted to tighten connection of pup joint with ventury choke assembly on pipe rack using 2 ea pipe wrench 48". IP put the wrench on bottom of connection to hold the force and other wrench was pushed by tool pusher to tighten the connection. While doing so the pipe wrench on bottom was loose and causing the left little finger pinched with other pup join which on the rack. IP got open wound and brought to PT. X Medical-Duri. Result of medical examination was no broken bone and IP got 8 stitches. The Doctor advised IP to do light duty. This case is categorized as Restricted Work Activity Case.
101	Des	Selasa	20/Des/2011	8:30	contractor	Kokoh 01 Well Libo	TRI	Arm	On Tuesday, 20 December 2011 at 08:30 hours, a PT Scomi employee (IP) and his partner were on discussion in Centrifuge Area, while IP checked the Centrifuge, he step and suddenly fell to uncovered opening of vertical stair at floor and his left arm hit the floor, he felt pain on his left shoulder. From examination and x-ray, found fracture at his left upper arm bone and doctor recommended for restricted duty. This case is categorized as Restricted Work Activity Case.
102	Des	Rabu	21/Des/2011	14:30	contractor	Go-down Rig Maintenance, Limbat Yard	DAFW	eye	On Wednesday, 21 December 2011 at 14:30 hours, a worker (IP) was hammering a "stamp number" onto an elevator using 1 kg hammer. When IP was tagging the 4th number out of total 11, a small part of "stamp number" head broken and flew into his left eye. IP was improperly wearing safety glasses (put on below his nose). He was hospitalized at Public Hospital for further treatment.
103	Des	Kamis	22/Des/2011	11:30	contractor	Randu Camp Main Road	TRI	head	On Thursday, 22 December 2011 at 11:30 hours, a PT Flaro Surya employee was on his way to Church to take a break after working at PT PT. X' Gate KM 8. While on Randu Main Road, he was stung by bees. He can escape after he met Security Patrol that asked him to get into their car. He was brought to Rumbai Clinic for medical treatment.
104	Des	Kamis	22/Des/2011	14:20	contractor	Petani Gas Plan	DAFW	finger	On Thursday, 22 December 2011 at 14:20 hours, one of PT Timas crew was manually unloading glycol drums from trailer with his team. There were 23 drums to be unloaded. While unloading 10th drum, the crew member's finger was pinched between drums handled. He got some medical treatment due to the injury/fracture in his fingers and need to stay at hospital for 3-4 days to prevent secondary infection.



no	month	day	date	time	employee type	location	injury_type	body_part	description
105	Des	Jumat	23/Des/2011	1:40	contractor	KB# 391 (KOPET Field)	TRI	finger	On Friday, 23 December 2011 at 01.40 hours, one of PT SGN employee was installing an ESP utilizing Spooler Unit. His hands were pinched in the cable spooler while performing the job. He got some injuries on his left and right fingers before he can take his hands out from the equipment. He got some stitches at Petapahan Clinic and is referred to Minas Clinic for further treatment/observation.



# CURRICULUM VITAE



**Name** : Murdiyono

**Birth Place** : Klaten, Central Java

**Date of Birth** : September 07, 1984

***Favorite Quote:***

***"Whatever you are, be a good one"***  
***(Abraham Lincoln)***

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<b>Educations</b>	2010-2013	Graduate from Master of Technology Management Tenth November Institute of Technology (ITS)
	2002- 2007	Undergraduate from Chemical Engineering Gadjah Mada University (UGM)

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<b>Experiences</b>	Jan 2011 – Present	PT. CPI, Operation Engineering for Treating, Shipment and Waste Facilities
	Jan 2010 – Dec 2011	PT. CPI, Capital Project Management Team
	Sep 2008 – Dec 2010	PT. CPI, Operation Engineering for Production and Measurement Facilities
	Dec 2007 – Aug 2008	PT. Tripatra Engineering & Constructors, "Gas Processing Facility Jambi Merang Project (JOB Pertamina-HESS)"
	April – Nov 2007	PT. Tripatra Engineering & Constructors, "Trans Peninsula Oil Pipeline Project"

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